

U. S. MARINE CORPS TECHNICAL MANUAL

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MASTER MAINTENANCE REFERENCE MANUAL



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APRIL 1962

Department of the Navy  
Headquarters U. S. Marine Corps  
Washington 25, D. C.

24 Jul 1962

1. This publication, TM-2000-15/1, is effective upon receipt and includes current information as of 18 April 1962.
2. This Manual is published for use by electronics maintenance personnel and provides a centralized reference source for most Marine Corps electronic equipments.
3. Notice of any discrepancies and suggested changes to this publication should be directed to the Commandant of the Marine Corps (Code CSY).

By direction of the Commandant of the Marine Corps



CHESTER R. ALLEN

Major General, U. S. Marine Corps  
Quartermaster General of the Marine Corps

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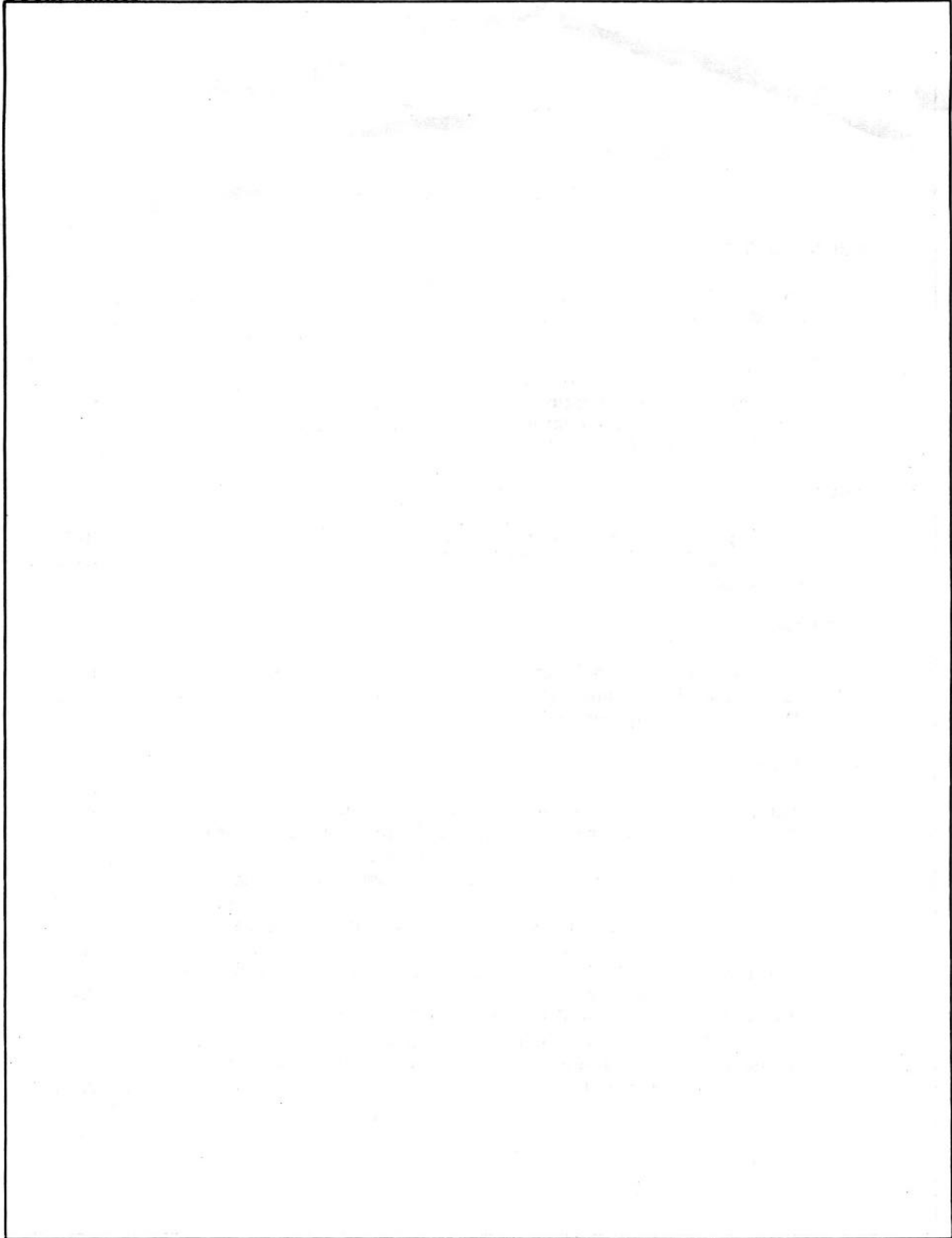
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MASTER MAINTENANCE REFERENCE MANUAL

Front Matter

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## INTRODUCTION

The purpose of the Master Maintenance Reference Manual (MMRM) is to provide a single reference source containing information about the technical, physical, and operational characteristics of electronic equipment. It is intended for use by electronics maintenance and supervisory personnel in planning for the use and maintenance of Marine Corps electronic equipment.

Equipment items are grouped into three functional categories: communication equipment, radar equipment, and miscellaneous equipment. A series of data sheets on each equipment is placed alphabetically, in the appropriate functional category section, according to the descriptive or noun nomenclature title of each.

The data sheets for each equipment provide the following general information.

- Federal Stock Number
- ID Number
- Equipment Function
- Manufacturer
- Contract Number
- Approximate Price
- Recommended Checkout Interval
- List of Major Units
- Operational Characteristics
- Technical Characteristics
- Weight and Cube of Equipment
- Similar Equipments (where applicable)
- List of Authorized Publications
- Maintenance Data and Test Equipment Required
- List of Applicable Modifications
- Illustration and Block Diagram of Equipment

The appendix in the MMRM provides charts showing test equipment requirements for electronic equipment. Radio frequency coverage of the sets used by various tactical organizations and frequency coverage of common signal generators is also shown.

Revisions to this manual are accomplished quarterly. The publications list and data sheets contain information conforming to the latest issue of the SL-1-2 Marine Corps Stock List of Authorized Publications. Revised pages reflect the date of the SL-1-2 Stock List on which the revision is based.

As major items of electronics equipment become obsolete or are acquired by the Marine Corps, appropriate changes will be made in the Master Maintenance Reference Manual. The effectiveness of this manual depends upon keeping its data up to date. Insertions and deletions in accordance with the latest revisions should be accomplished promptly.

The first part of the document discusses the importance of maintaining accurate records of all activities. It emphasizes that these records are essential for ensuring transparency and accountability in the organization's operations. The text further outlines the specific procedures for data collection, storage, and retrieval, highlighting the need for consistent and reliable information.

The second section of the document details the various methods used to gather and analyze data. It describes the use of surveys, interviews, and focus groups to collect qualitative information, as well as the application of statistical techniques to process quantitative data. The text also addresses the challenges associated with data analysis, such as ensuring the validity and reliability of the results.

The final part of the document provides a summary of the key findings and conclusions drawn from the research. It highlights the significant insights gained from the data and discusses the implications for the organization's future strategy and decision-making. The text concludes by emphasizing the ongoing nature of the research process and the need for continuous monitoring and evaluation.

MASTER MAINTENANCE REFERENCE MANUAL

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Manual Telephone Central Office	AN/TTC-9	1-6
Manual Telephone Switchboard	SB-86/P	1-6
Manual Telephone Switchboard	SB-22/PT	1-6
Public Address Set	AN/PIQ-5	1-6
Public Address Set	AN/TIP-1 and 1A	1-6
Public Address Set	AN/TIP-2	1-6
Public Address Set	AN/TIQ-2 and 2A	1-6
Radio Receiver	AN/URR-23A	1-6
Radio Receiver	R-390/URR	1-6
Radio Receiver	R-392/URR	1-7
Radio Receiving Set	AN/TRR-5	1-6
Radio Repeater Set	AN/MRC-63	1-8
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Radio Set	AN/GRC-5	1-25
Radio Set	AN/GRC-7	1-25
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Radio Set	AN/GRC-48	1-7
Radio Set	AN/MRC-35	1-8
Radio Set	AN/MRC-36	1-24
Radio Set	AN/MRC-37	1-24
Radio Set	AN/MRC-38	1-24
Radio Set	AN/MRC-40	1-6
Radio Set	AN/MRC-47	1-10
Radio Set	AN/MRC-60	1-12
Radio Set	AN/MRC-83	1-8
Radio Set	AN/MRC-87	1-8
Radio Set	AN/PRC-6	1-6
Radio Set	AN/PRC-8	1-16
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Teletypewriter Set	AN/GGC-3	1-6
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MASTER MAINTENANCE REFERENCE MANUAL

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AN/GIC-1	Intercommunication Set	1-6
AN/GRA-6	Radio Set Control	1-6
AN/GRC-3	Radio Set	1-25
AN/GRC-5	Radio Set	1-25
AN/GRC-7	Radio Set	1-25
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AN/TGC-6	Teletypewriter Set	1-6
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AN/TRC-27	Radio Set (See Radio Set AN/MRC-60)	1-12
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# AMPLIFIER-POWER SUPPLY AM-598/U

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Amplifier-Power Supply AM-598/U

GENERAL DATA	MAJOR UNITS
<p>F. S. N.: 5820-606-8869                      ID Number: 00039A                      Function: Audio amplifier and power supply.</p> <p>Manufacturer: Radio Corporation of America, Camden, N. J.</p> <p>Contracts: Order #13524-PH-51</p> <p>Approximate price: \$400.                      Recommended operational checkout interval: <u>WEEKLY</u></p>	<p>(1) Amplifier Power Supply, AM-598/U.                      (1) Cable Assembly, CX-2031/U.                      (1) Accessories Case, CY-1210/U.</p>



Amplifier-Power Supply AM-598A/U.

**AMPLIFIER-POWER SUPPLY AM-598/U**

Amplifier-Power Supply AM-598/U

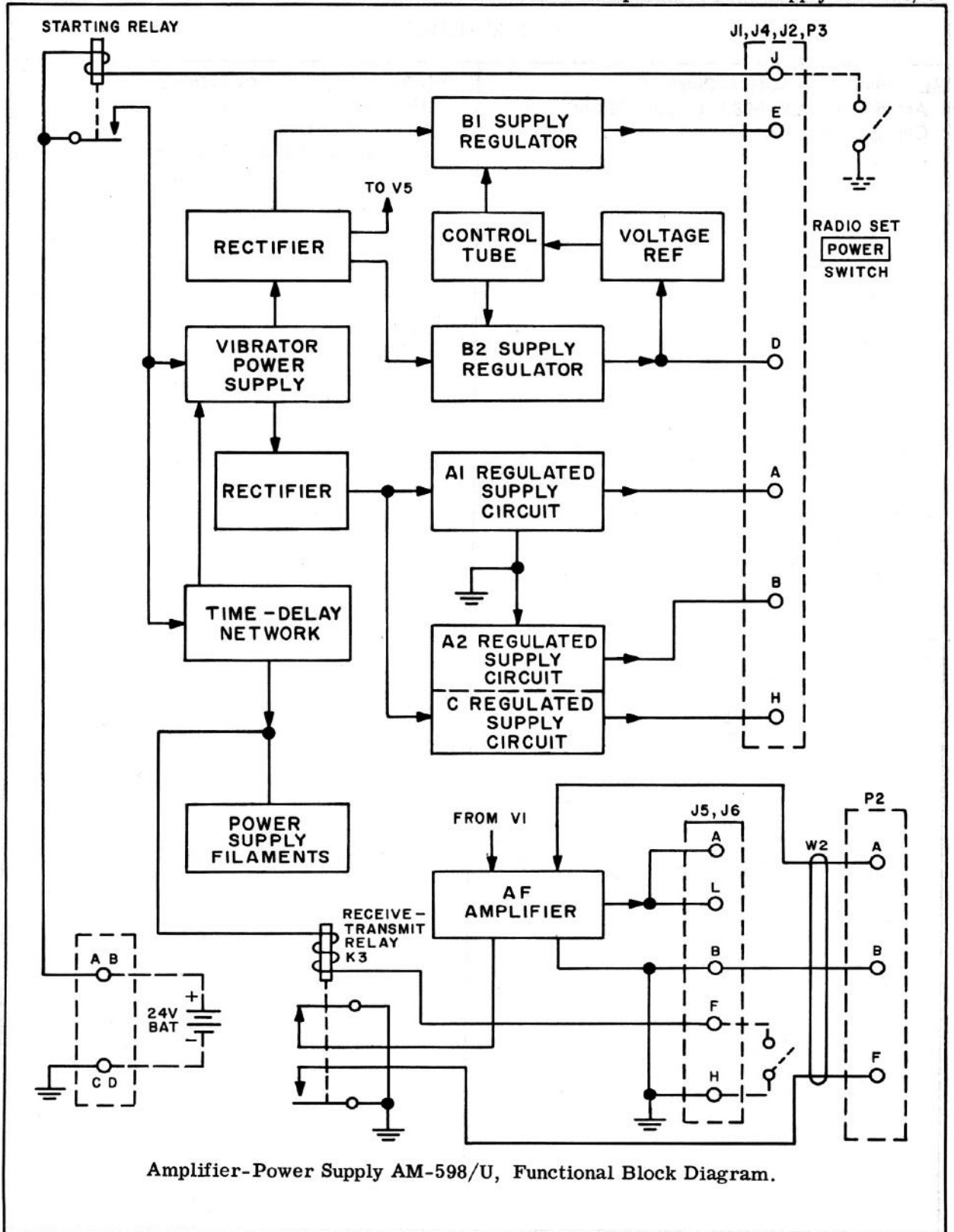
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OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS		
<p>Use: Vibrator type regulated power supply and audio amplifier that adapts Radio Sets AN/PRC-8, AN/PRC-9, and AN/PRC-10 for vehicular use.</p> <p>Installation: Mobile</p>	<p>Number of tubes: 6</p> <p>Rated input: 24 volts DC.</p> <p>Battery current drain</p> <p>Receiver operation: at 30 volts (max), 2.7 amperes.</p> <p>Transmitter operation: at 30 volts (max), 3.1 amperes.</p>		
SIMILAR EQUIPMENTS	PHYSICAL CHARACTERISTICS		
	Unit	Overall Weight (in lbs)	Cubic Feet
	AM/598/U	60	2.4 (crated)

AMPLIFIER-POWER SUPPLY AM-598/U

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Amplifier-Power Supply AM-598/U



Amplifier-Power Supply AM-598/U, Functional Block Diagram.

AMPLIFIER-POWER SUPPLY AM-598/U

Revised  
April 1962

Amplifier-Power Supply AM-598/U

PUBLICATIONS

SL-4-00039, Amplifier-Power Supply  
AM-598/U, AM-598A/U, Apr 61 and  
Change 1 Feb 62.

SL-3-00039, Amplifier-Power Supply  
AM-598/U, AM-598A/U, Sep 61.  
TM 11-5055, Amplifier-Power Supply  
AM-598/U, AM-598A/U, May 54.

AMPLIFIER-POWER SUPPLY AM-598/U

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Amplifier-Power Supply AM-598/U

MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Adjustment procedures and final testing	Multimeter: 1.39 to 127 VDC	TS-352/U	AN/PSM-4A	TM 11-5055 Chapter 5 paragraph 60 through 67.
	Distortion meter	TS-615/U	* Type 736-A General Radio Company	
	Multimeter: 0-100 volts	ME-6A/U	ME-30A/U	
	Audio oscillator: 150 to 5000 CPS	TS-382( )/U	LO - ( )	
Organizational maintenance	No special test equipment required			TM 11-5055 Chapter 3, paragraphs 25 through 38.
Fourth echelon testing procedure	Output meter 13.5 to 31.5 mw	TS-585C/U	*ME-184/U	TM 11-5055 Chapter 5.1 Change 3.

\* Not a T/A item.

AMPLIFIER-POWER SUPPLY AM-598/U

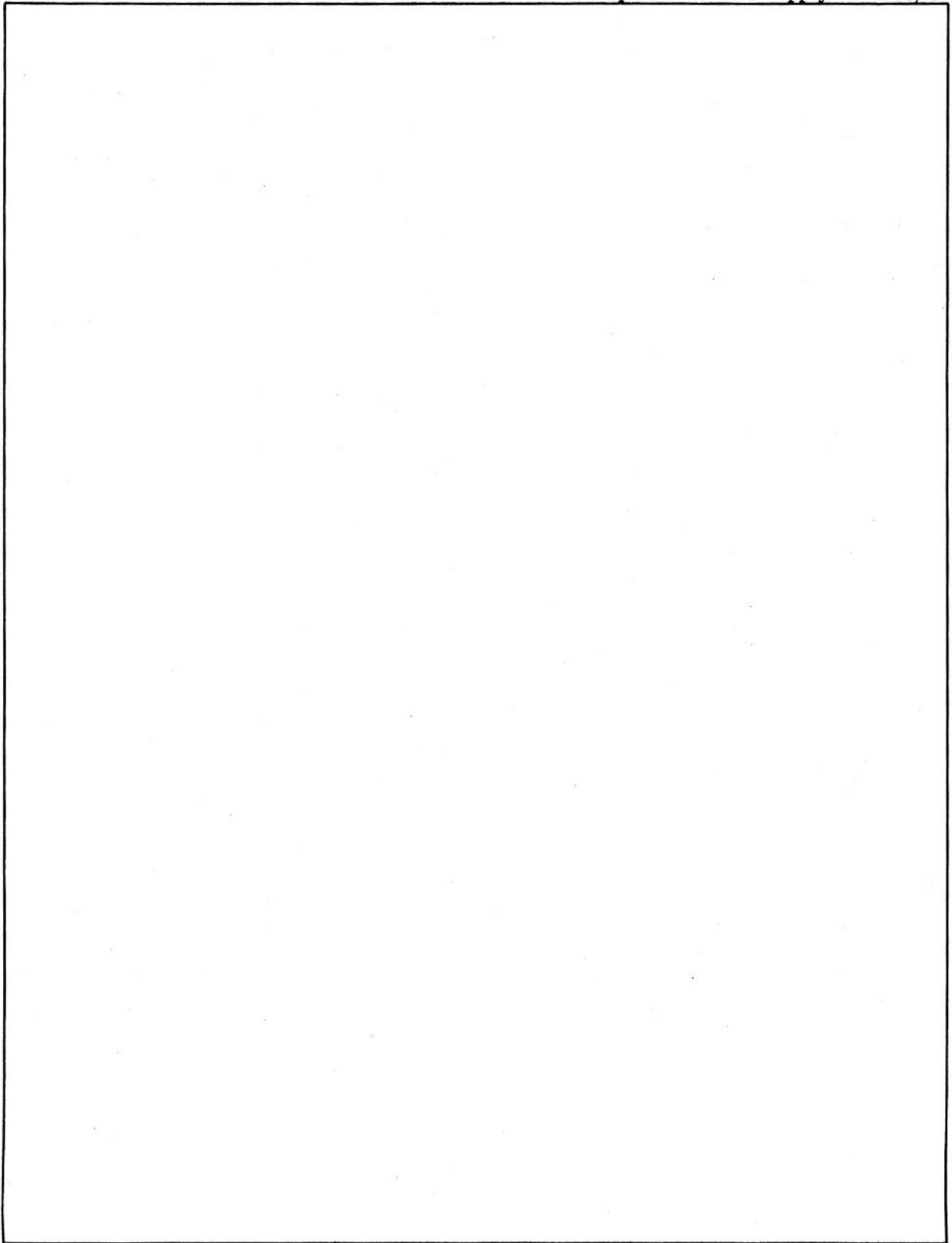
Amplifier-Power Supply AM-598/U

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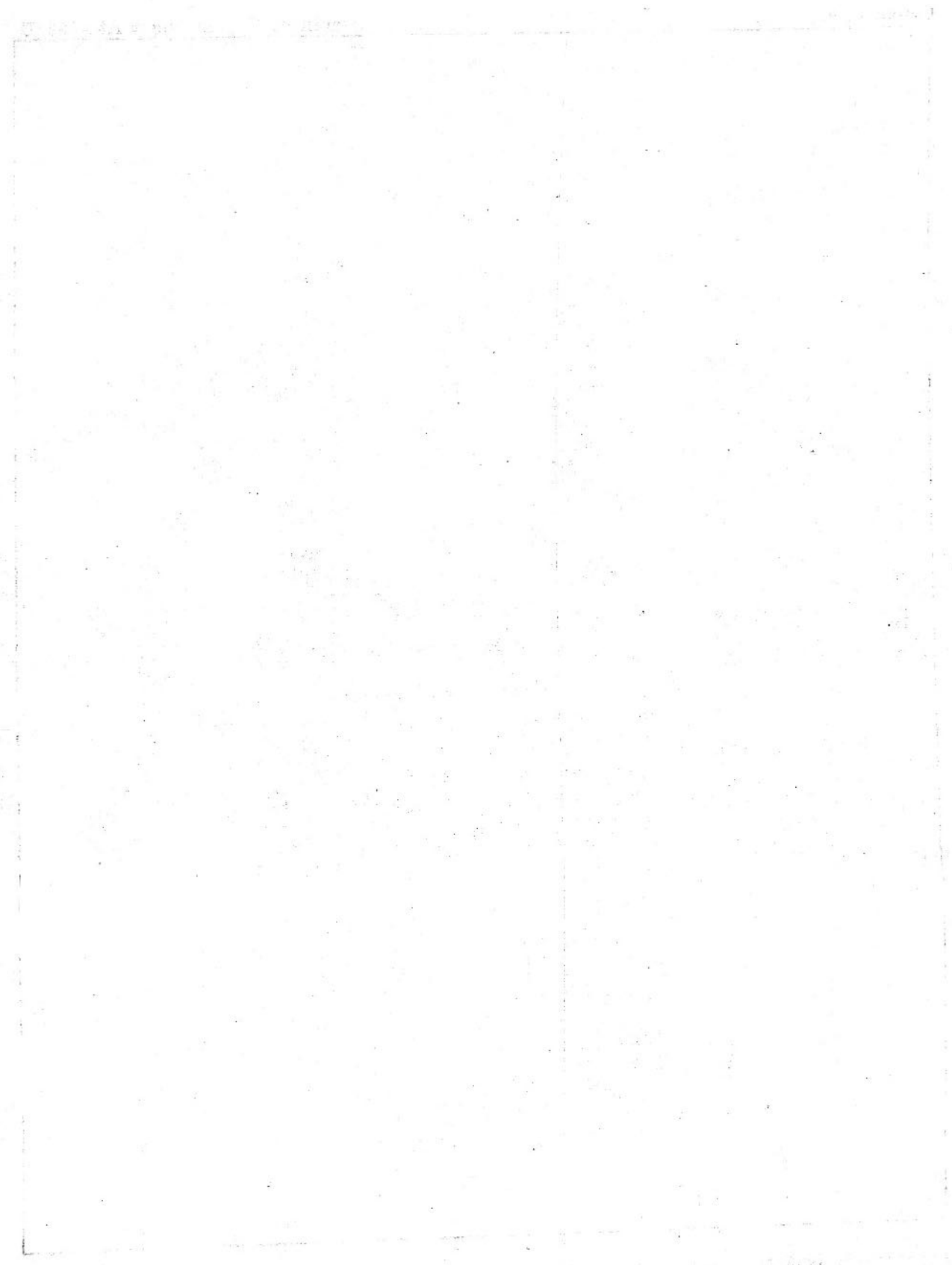
EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
MCO 2005.3 Sup. 2: Addition of accessory to minimize vibration damage - when vehicular mounted	AM-598/U	Installation of web strap around AM-598/U and radio set used with Radio Sets AN/PRC-8, AN/PRC-9, and AN/PRC-10.
MCO 2005.3 Sup. 3: Modification of AM-598/U to permit use with later model radio sets AN/PRC-8A, 9A, 10A	AM-598/U	Two-position switch mounted on front panel. One position indicates operation with AN/PRC-8, 9, or 10; other positions indicate operation with AN/PRC-8A, AN/PRC-9A, or AN/PRC-10A.
MCO 2005.3 Sup. 4: Modification for use in Self-Propelled Rifle M-50	AM-598/U	Addition of silicon rectifier located on top of capacitor C5. This modification to be made only on equipment installed on Self-Propelled Rifle M-50.

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Amplifier-Power Supply AM-598/U





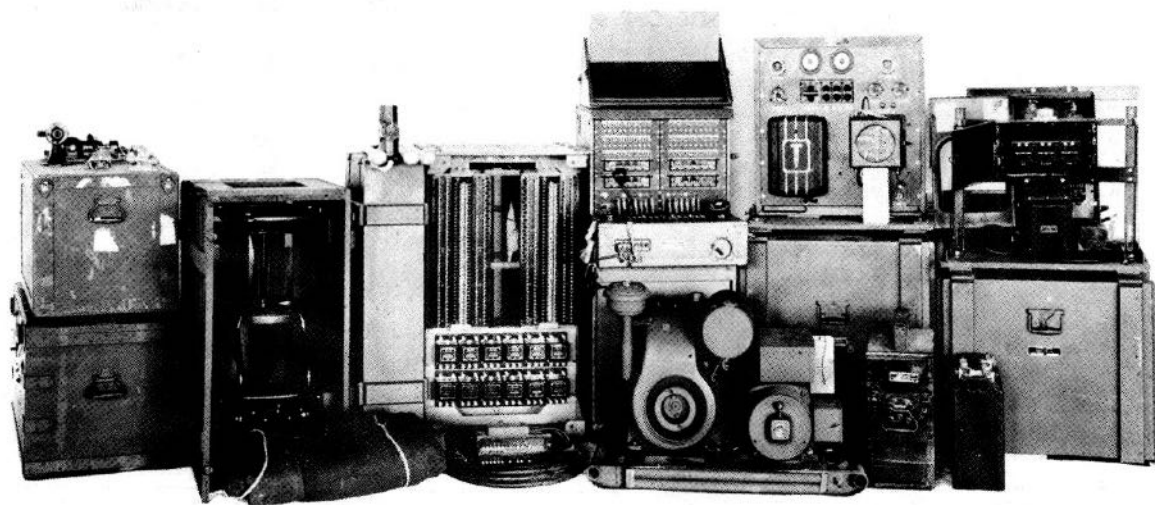


**CENTRAL OFFICE MANUAL SWITCHBOARD MTC-2**

October 1961

Central Office Manual Switchboard MTC-2

GENERAL DATA		MAJOR UNITS	
F. S. N:	5805-243-1374	(1)	Panel BD-98
ID Number:	00226A	(1)	Cabinet BE-79
Function:	Manually operated switchboard.	(1)	Switchboard BD-89
		(1)	Chair M-205
Manufacturer:	Unknown	(1)	Power Unit PE-75
		(3)	Ground Rods GP-29
		(2)	Batteries BB-46
Contracts:	Procured from Signal Corps	(1)	Junction Box JB-19
		(1)	Rectifier RA-91 ( ) or RA-36 ( )
		(1)	Cabinet BE-75
Approximate price:	\$9,630.00	(1)	Rack FM-30
Recommended operational checkout interval:	WEEKLY	(1)	Rack FM-31
		(3)	Ground Rods MX-148/G

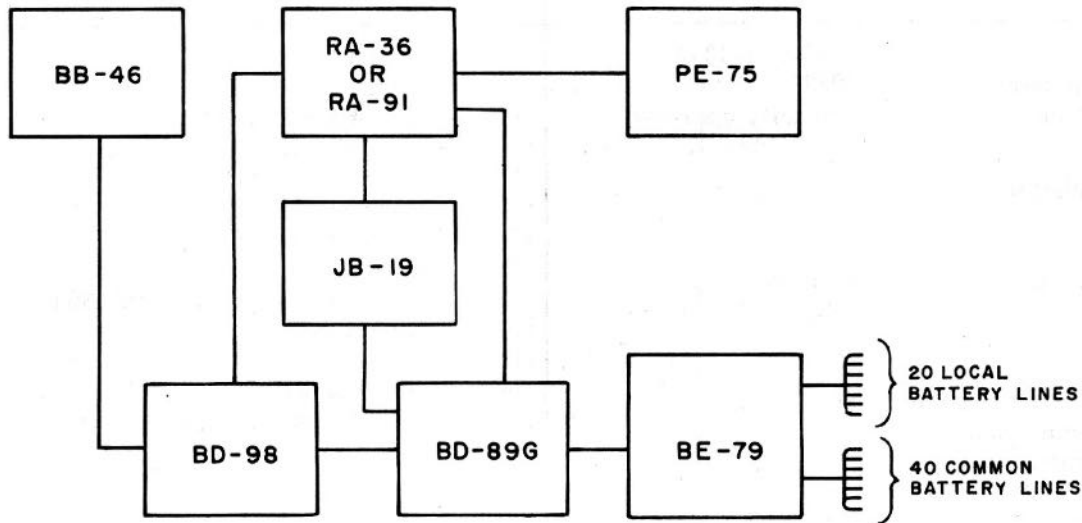


Central Office Manual Switchboard MTC-2.

CENTRAL OFFICE MANUAL SWITCHBOARD MTC-2

Central Office Manual Switchboard MTC-2

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Central Office Manual Switchboard MTC-2 Block Diagram.

OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS		
<p>Use: Central Office Manual Switchboard MTC-2 is a complete, portable, single-position, two-panel, manually operated telephone switchboard for serving both magneto and common battery lines. It is also arranged for handling, originating and terminating trunk and tie-line traffic.</p> <p>Used with: Field telephone systems. It also may be connected to commercial common battery systems.</p> <p>Installation: Transportable.</p>	<p>Switchboard positions: 1.</p> <p>Number and type of circuits:            Models BD-89-A through E:            Cord circuits: 13 universal; 1 dial.            Line circuits: 20 L B; 37 CB.            Trunk circuits: 2 C B; 1 dial.</p> <p>Model BD-89-G:            Line circuits: 40.            Trunk circuits: 4.</p> <p>Power requirements:            Power Unit PE-75-(): 2500 W, 115 V, 60 cycles.</p> <p>Rectifier RA-91 or RA-36: 2 to 12 amp, 6 to 48 V.</p> <p>Storage battery BB-46: 90 amp-hr, 40 to 56 V.</p>		
SIMILAR EQUIPMENTS	PHYSICAL CHARACTERISTICS		
Manual Telephone Switchboard SB-86/P	Unit	Overall Weight (in lbs)	Cubic Feet
	MTC-2	4000 (In 18 packages)	230 (crated)

CENTRAL OFFICE MANUAL SWITCHBOARD MTC-2

Revised  
January 1962

Central Office Manual Switchboard MTC-2

PUBLICATIONS

<p>D/L VOL III, Telephone Central Office Set MTC-2, Aug 49.                  LO 11-900, Power Units PE-75 Series, Feb 45.                  SIG 7-8, Cabinet BE-75, Jan 57.                  SIG 7-8, Cabinet BE-79, Sep 56.                  SIG 7-8, Generator Ring Static TA-248/TT, TA-248A/TT, Oct 57.                  SIG 7-8, Interrupter Ringing PF-250, Aug 57.                  SIG 7-8, Panel BD-98, Apr 56.                  SIG 8, Rectifier RA-36, Jul 44.                  SL-3-02641, Generator Ringing Static TA-46/FT, Apr 61.                  SL-4-02641, Generator Ringing Static TA-46/FT, TA-46A/FT, May 61.                  SL-3-02641, Generator, Ringing Static TA-46/FT, Apr 61, Ch 1 Jun 61.</p>	<p>TM 11-340, Telephone Central Office Set TC-2, Dec 45.                  TM 11-900, Power Units PE-75 Series, Sep 45.                  TM 11-951, Rectifiers RA-36, RA-36J, RA-36K, RA-36L, RA-36N and RA-36Q, Jun 45.                  TM 11-5965-221-15P, Chest Set H-18/GT, Jul 59.                  TM 11-5965-228-12P, Microphone T-45, Jul 59.                  TM 11-5965-230-12P, Headsets HS-30 Series, Jul 59.                  TM 11-5965-230-35P, Headsets HS-30 Series, Jul 59                  TM 11-6115-206-10P, Power Units PE-75 Series, Jul 59.                  TM 11-6115-206-20P, Power Units PE-75 Series, Jul 59.                  TM 11-6115-206-35P, Power Units PE-75 Series, Jul 59.</p>
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CENTRAL OFFICE MANUAL SWITCHBOARD MTC-2

Central Office Manual Switchboard MTC-2

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MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Organizational maintenance	No special tools or equipment required.			TM 11-340, part three.
Repair	Voltmeter: 0 to 30 VDC Ohmmeter Test set: 0 to 150 ma Test receiver: Cabinet: 0 to 40 VDC	I-166 TS-26/TSM I-181 TS-190/U BE-70-P	AN/PSM-4A AN/PSM-4A EE-65	TM 11-340, part five, sections XV through XVII.

CENTRAL OFFICE MANUAL SWITCHBOARD MTC-2

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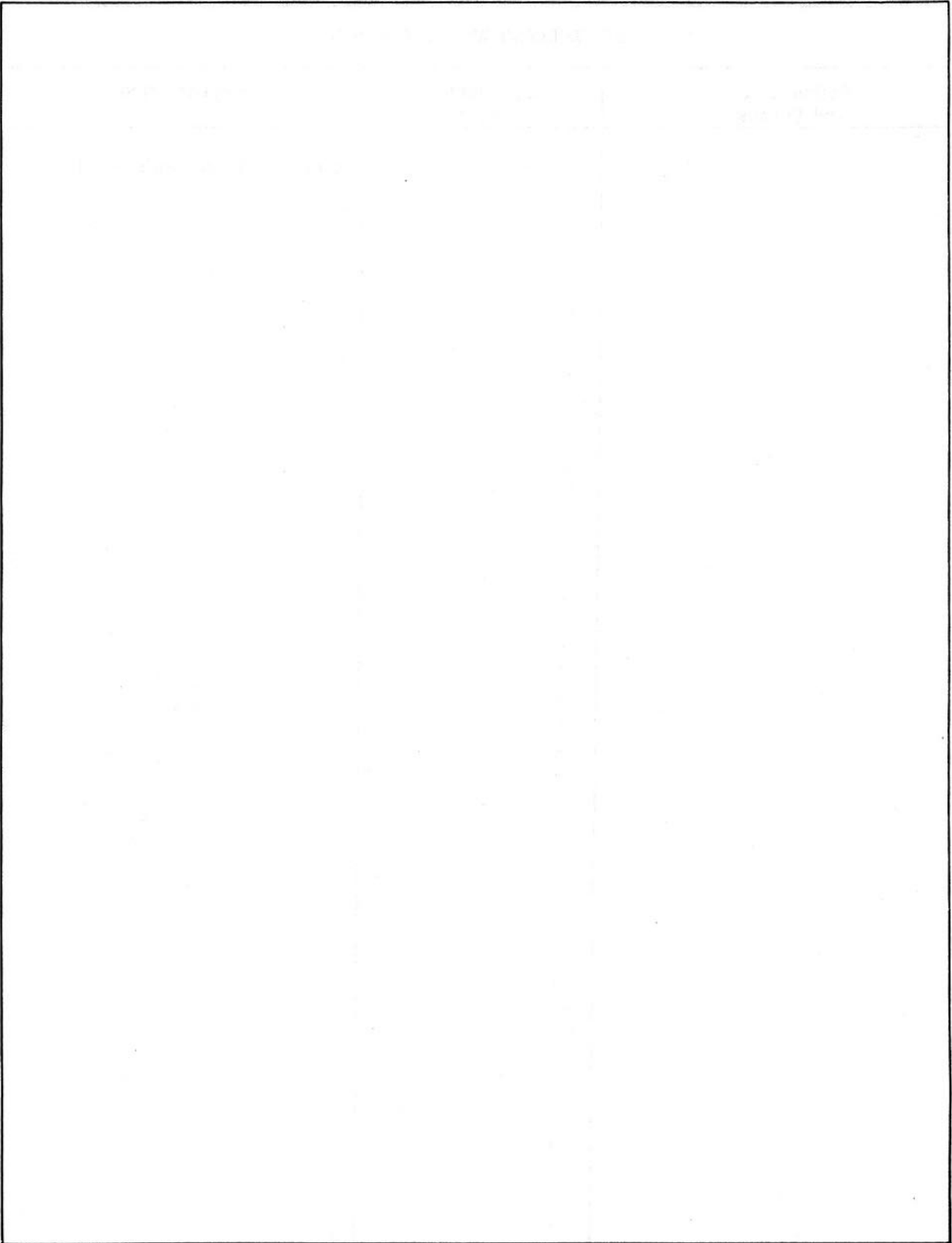
Central Office Manual Switchboard MTC-2

EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
		No modifications authorized.

CENTRAL OFFICE MANUAL SWITCHBOARD MTC-2

Central Office Manual Switchboard MTC-2

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INTERCOMMUNICATION SET AN/GIC-1

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Intercommunication Set AN/GIC-1

GENERAL DATA		MAJOR UNITS	
F. S. N:	5830-038-3655	(1)	Carrying Case
ID Number:	00042A	(1)	Central Station
Function:	Two-way voice communications over land lines.	(13)	Substations
Manufacturer:	Dictograph Products Co. New York, N. Y.	(1)	Battery Terminal Box
		(1)	Field Switchboard Generator
		(8)	Batteries Navy Type 19010
		(26)	Batteries BA-30
Contracts:	NOM 39244		
Approximate price:	\$740.00		
Recommended operational checkout interval:	<u>WEEKLY</u>		



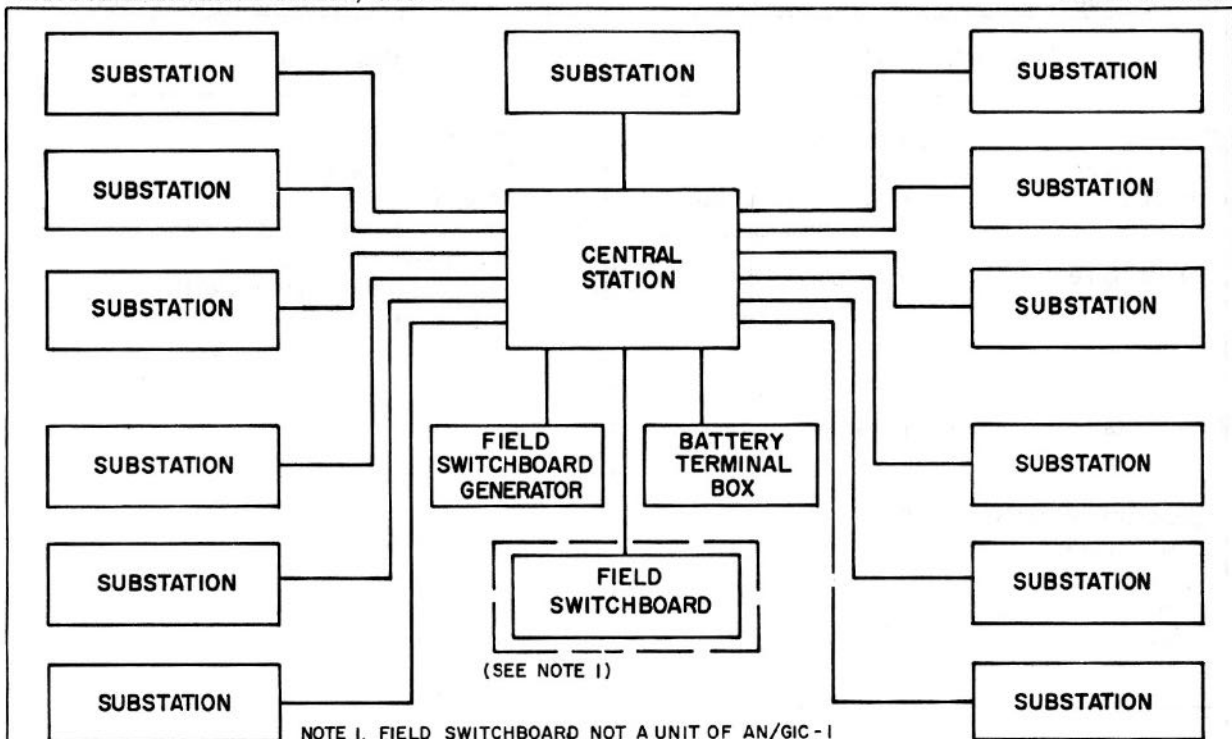
Intercommunication Set AN/GIC 1



# INTERCOMMUNICATION SET AN/GIC-1

Intercommunication Set AN/GIC-1

October 1961



NOTE 1. FIELD SWITCHBOARD NOT A UNIT OF AN/GIC-1

Intercommunication Set AN/GIC-1 Block Diagram

OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS	
<p><b>Use:</b> Intercommunication Set AN/GIC-1 provides commanding officers with communication facilities for their staff officers or other key personnel. It will alert personnel in a minimum of time and does not require a switchboard operator.</p> <p><b>Used with:</b> A trunk line may connect the AN/GIC-1 to field switchboards, i.e. Telephone Switchboard SB-22/PT or Manual Telephone Switchboard SB-86/P.</p> <p><b>Installation:</b> Portable.</p>	<p><b>Signal type:</b> Voice.</p> <p><b>Communication circuit type:</b> Conventional field telephone.</p> <p><b>Controls:</b> 14 operating keys.</p> <p><b>Number of substations:</b> 13.</p> <p><b>Power requirements:</b> 8 1-1/2-volt batteries, Navy Type 19010. 26 batteries BA-30.</p>	
SIMILAR EQUIPMENTS	PHYSICAL CHARACTERISTICS	
	Unit	Overall Weight (in lbs)
	AN/GIC-1	250
		Cubic Feet  (crated)
		14 (crated)

INTERCOMMUNICATION SET AN/GIC-1

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Intercommunication Set AN/GIC-1

PUBLICATIONS

SIG M8, Interphone Set AN/GIC-1, Jun 56.  
SL-3-00042A, Intercommunication Set  
AN/GIC-1, Nov 60.  
TM 11-5805-272-12P, Generator GN-38,  
GN-38A, GN-38B, Jul 59.

TM 11-5805-272-35P, Generator GN-38,  
GN-38A, GN-38B, Aug 59.  
TM 11-5965-216-15P, Handset TS-9-F, Dec 59

INTERCOMMUNICATION SET AN/GIC-1

Intercommunication Set AN/GIC-1

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MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Testing	Multimeter: 0 to 12 VDC	TS-352( )/U	AN/PSM-4A	Alert Telephone System MCT-I, Instruction Book, pages 20 through 29.

INTERCOMMUNICATION SET AN/GIC-1

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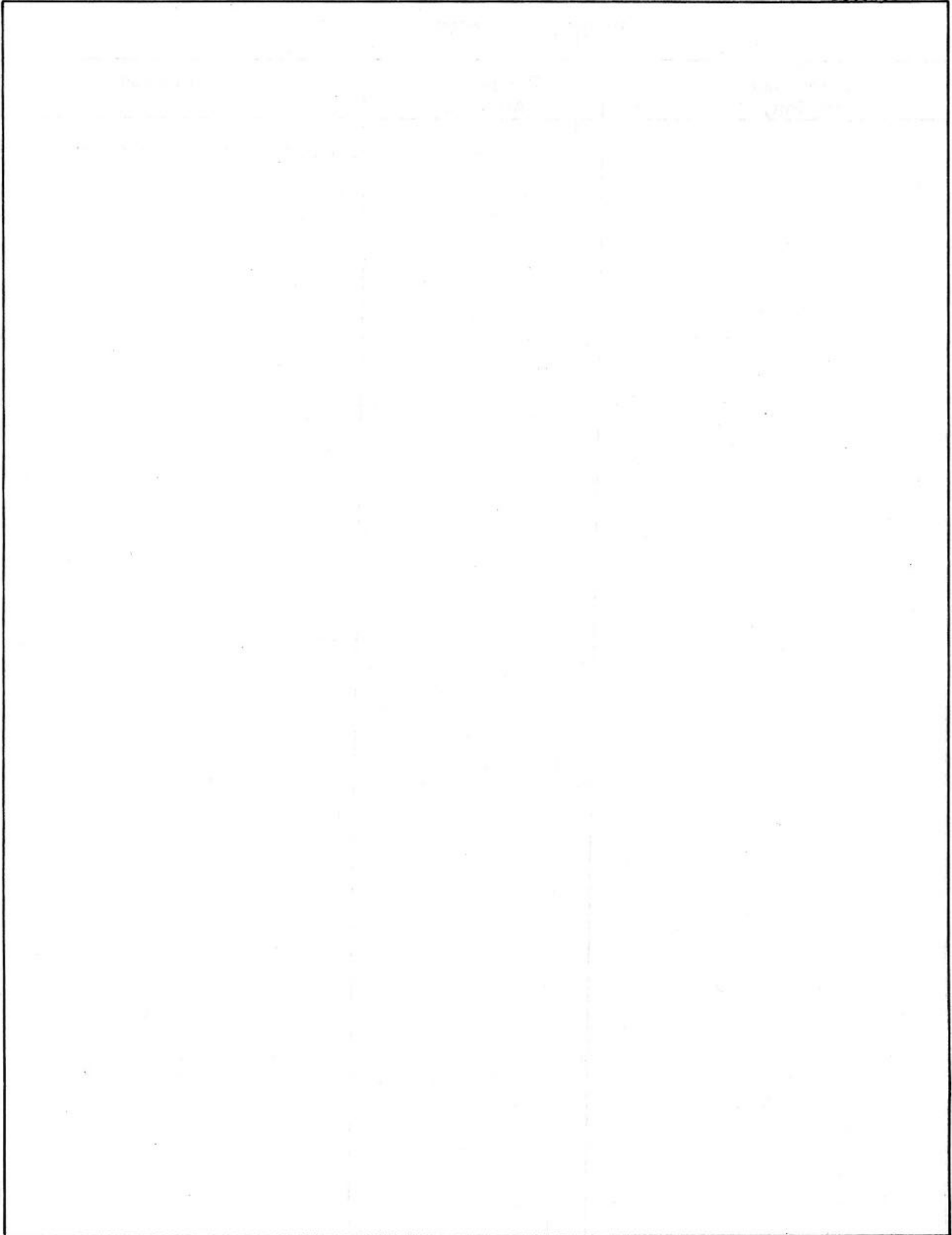
Intercommunication Set AN/GIC-1

EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
		No modifications authorized.

INTERCOMMUNICATION SET AN/GIC-1

Intercommunication Set AN/GIC-1

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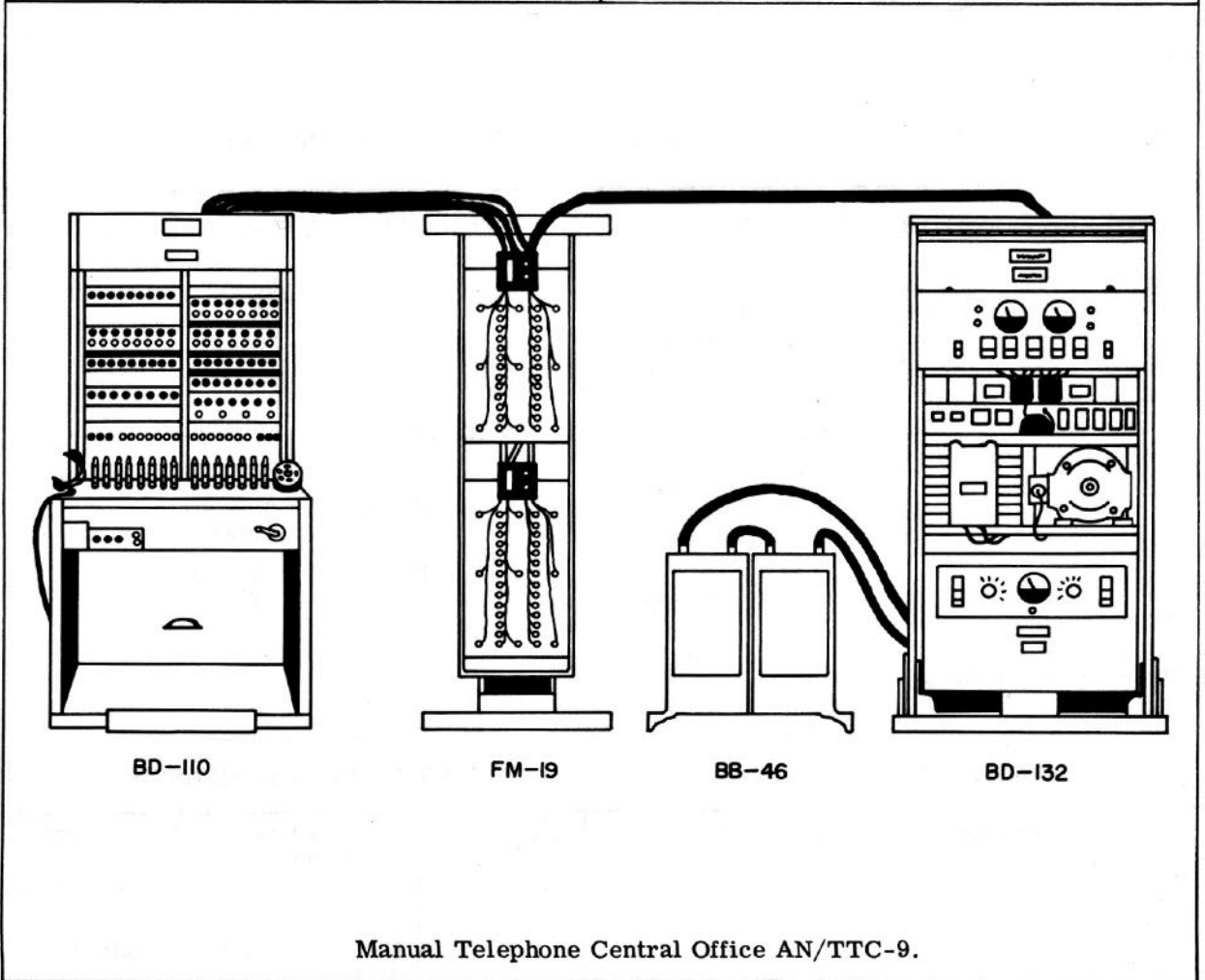


MANUAL TELEPHONE CENTRAL OFFICE AN/TTC-9

October 1961

Manual Telephone Central Office AN/TTC-9

GENERAL DATA		MAJOR UNITS
F. S. N:	5805-538-0248	(1) Telephone Distribution Rack FM-19
ID Number:	00112A	(1) Chair M-205-A
Function:	Telephone switching central.	(1) Power Unit PE-75
Manufacturer:	Graham Electric Co.	(1) Battery Rack FM-31
Contracts:	4661	(3) Ground Rod MX-148/G
Approximate price:	\$13,000.00	(1) Power Switchboard BD-132 (Includes Rectifier RA-91 and Static Ringing Generator TA-248/TT)
Recommended operational checkout interval:	<u>BI-WEEKLY</u>	(1) Telephone Switchboard BD-110-C
		(1) Test Set Telephone BE-70
		(1) Test Set Telephone BE-72
		(2) Chest Set Electrical H-18/GT
		(2) Headset, Electrical HS-30
		(1) Headset Microphone H-66/U
		(1) Microphone, Carbon T-45

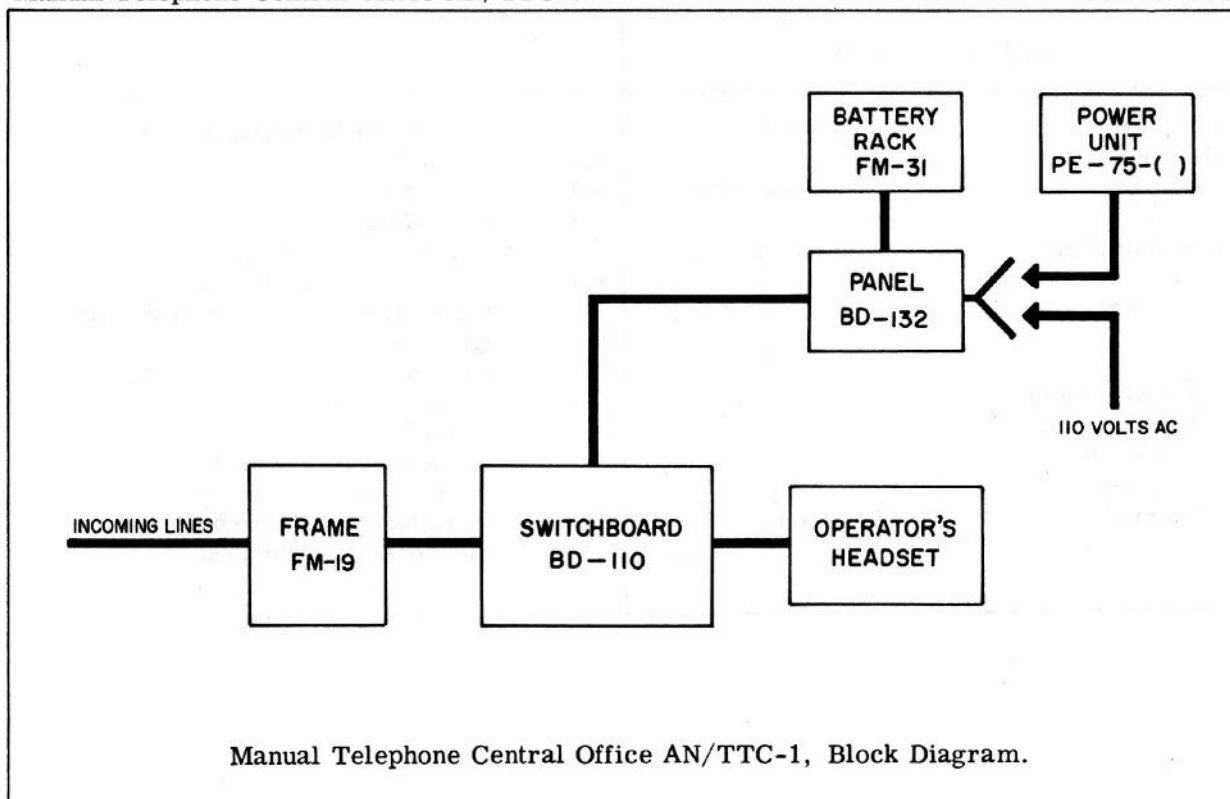


Manual Telephone Central Office AN/TTC-9.

# MANUAL TELEPHONE CENTRAL OFFICE AN/TTC-9

Manual Telephone Central Office AN/TTC-9

October 1961



Manual Telephone Central Office AN/TTC-1, Block Diagram.

OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS		
<p>Use: Manual Telephone Central Office AN/TTC-9 is a transportable central telephone office with a 90 line capacity (60 common and 30 local battery). The switchboard used in this telephone central is a single-position, two-panel, manually operated common and local battery multiple type. This telephone central is used at command posts where a switchboard of this capacity is required.</p> <p>Used with: Permanent or semi-permanent camp telephone systems.</p> <p>Installation: Transportable.</p>	<p>Line circuits: 90 60 common, 30 local.</p> <p>Positions: One.</p> <p>Cord circuits: 15 universal, 1 dial.</p> <p>Ringing current: Automatic, Manual.</p> <p>Power input: 120V, 60 CPS, 2500 watts.</p>		
SIMILAR EQUIPMENTS	PHYSICAL CHARACTERISTICS		
<p>Manual Telephone Central Office Set MTC-2.</p>	Unit	Overall Weight (in lbs)	Cubic Feet
	AN/TTC-9	4775 (approximately 15 packages)	230 (crated)

MANUAL TELEPHONE CENTRAL OFFICE AN/TTC-9

October 1961

Manual Telephone Central Office AN/TTC-9

PUBLICATIONS

LO-11-900, Power Units PE-75 Series, Feb 45.  
 RPL, Central Office Telephone Manual AN/TTC-9, Jul 58.  
 SIG M8 SUPP Frame FM-19 Aug 57.  
 SIG 7-8, Cabinet BE-72 May 56.  
 SIG 7-8, Frame FM-19, Feb 57.  
 SIG 7-8, Generator Ring Static TA-248/TT Oct 57.  
 SIG 7-8, Headset Microphone H-66/U, May 57.  
 SIG 7-8, Switchboard BD-110, Dec 57.  
 SL-3-00112A Central Office Telephone Manual AN/TTC-9, Sep 61.  
 TM 11-345, Cabinets BE-70 Series, Jul 45.  
 TM 11-900, Power Units PE-75 Series, Sep 45.  
 TM 11-964, Rectifier RA-91 and RA-91A, May 44.  
 TM 11-2064, Panels BD-132, BD-132A, and SB-361/TT, Jul 49 and Ch 2.  
 TM 11-4316, Switchboard BD-110, Aug 45.  
 TM 11-5805-300-20P, Panels BD-132 and BD-132A, Aug 60.

TM 11-5805-300-35P, Panels BD-132 and BD-132A, Aug 60.  
 TM 11-5965-208-15P, Chest Unit T-51, Apr 59.  
 TM 11-5965-219-12P, Chest Unit H-17/GT, Jul 59.  
 TM 11-5965-219-35P, Chest Unit H-17/GT, Jul 59.  
 TM 11-5965-221-15P, Chest Set H-18/GT, Jul 59.  
 TM 11-5965-228-12P, Microphone T-45, Jul 59.  
 TM 11-5965-230-12P, Headsets HS-30 Series, Jul 59.  
 TM 11-5965-230-35P, Headsets HS-30 Series, Jul 59.  
 TM 11-6115-206-10P, Power Units PE-75 Series, Jul 59.  
 TM 11-6115-206-20P, Power Units PE-75 Series, Jul 59.  
 TM 11-6115-206-35P, Power Units PE-75 Series, Jul 59.  
 TM 11-6130-220-12P, Rectifier RA-91, RA-91A, RA-91B, and RA-91C, Mar 60.  
 TM 11-6130-220-35P, Rectifier RA-91, RA-91A, RA-91B, and RA-91C, Mar 60.



MANUAL TELEPHONE CENTRAL OFFICE AN/TTC-9

Manual Telephone Central Office AN/TTC-9

October 1961

MAINTENANCE DATA

Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
BD-110-C Operational and transmission testing for switchboard	Test set	TS-190/U	TE-49	TM 11-4316, paragraphs 9 through 57.
	Multimeter: 0 to 3 VDC 525 to 750 ohms	TS-380/U	AN/PSM-4A	
	Milliammeter: 0 to .092 amp	I-181		
	Audio oscillator: 1000 cycles	TS-379/U	LO-( )	
	Decibel meter: 0 to 13.8 db	TS-399/U	TS-585( )/U*	
BD-132 Final testing	Voltmeter: 70 to 90 VAC 10 to 140 ma	AN/PSM-4A	TS-352( )/U	TM 11-2064 paragraphs 25 through 31.
RA-91 Final testing	Multimeter: 5 to 230 VAC	AN/PSM-4A	TS-352( )/U	TM 11-964A paragraphs 30 through 36.
	Multimeter: 2.8 to 3.1 amp AC	I-176		
	* Non T/A item			

MANUAL TELEPHONE CENTRAL OFFICE AN/TTC-9

October 1961

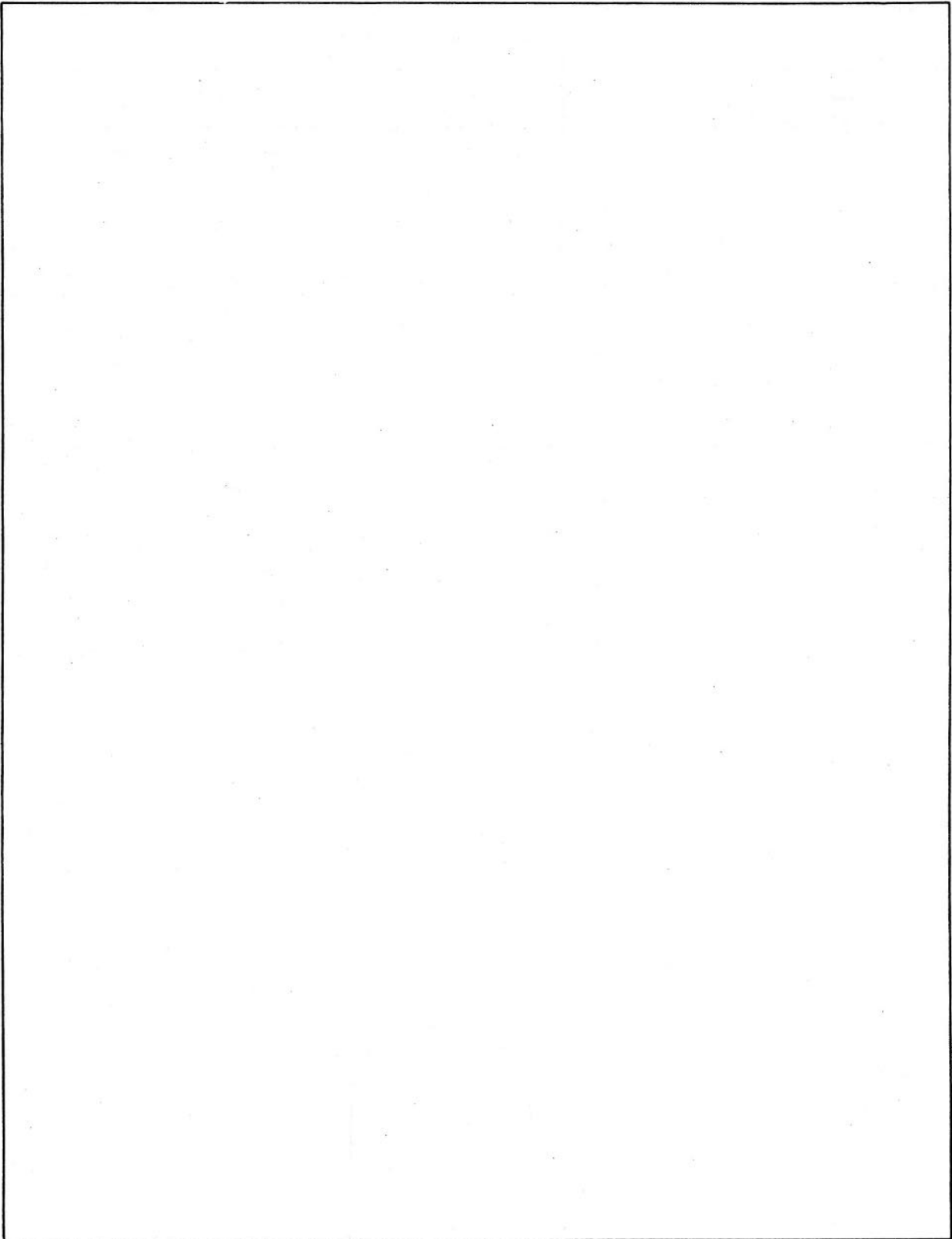
Manual Telephone Central Office AN/TTC-9

EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
		No modifications authorized.

MANUAL TELEPHONE CENTRAL OFFICE AN/TTC-9

Manual Telephone Central Office AN/TTC-9

October 1961

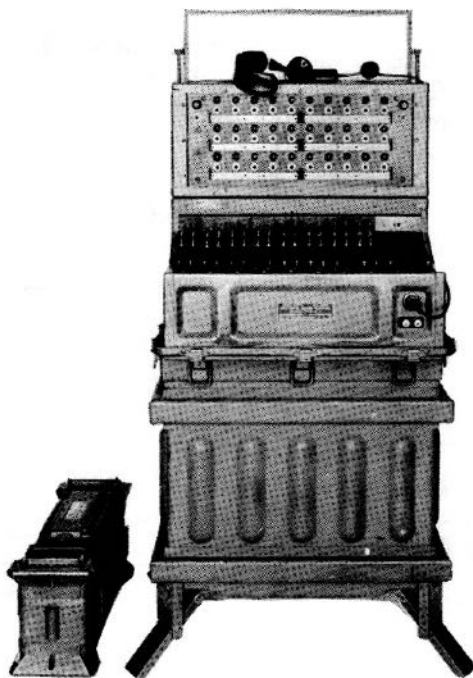


**MANUAL TELEPHONE SWITCHBOARD SB-86/P**

October 1961

Manual Telephone Switchboard SB-86/P

GENERAL DATA		MAJOR UNITS	
F. S. N:	5805-503-2660	(1)	Manual Telephone Switchboard Section SB-248/P
ID Number:	00277A	(1)	Switchboard Signal Assembly TA-207/P
Function:	A telephone switching central for field telephones or VF teletype-writer circuits.	(1)	Handset Headset H-91/U
		(1)	Power Supply PP-990/G
		(1)	Outer Cover Assembly
Manufacturer:	Kellogg Switchboard & Supply Co. , Chicago, Ill.		
Contracts:	DA-36-039-SC-895 R57-2181-USMC-ELCT R54-1756-USMC-ELCT		
Approximate price:	\$4,200.00		
Recommended operational checkout interval:	<u>WEEKLY</u>		

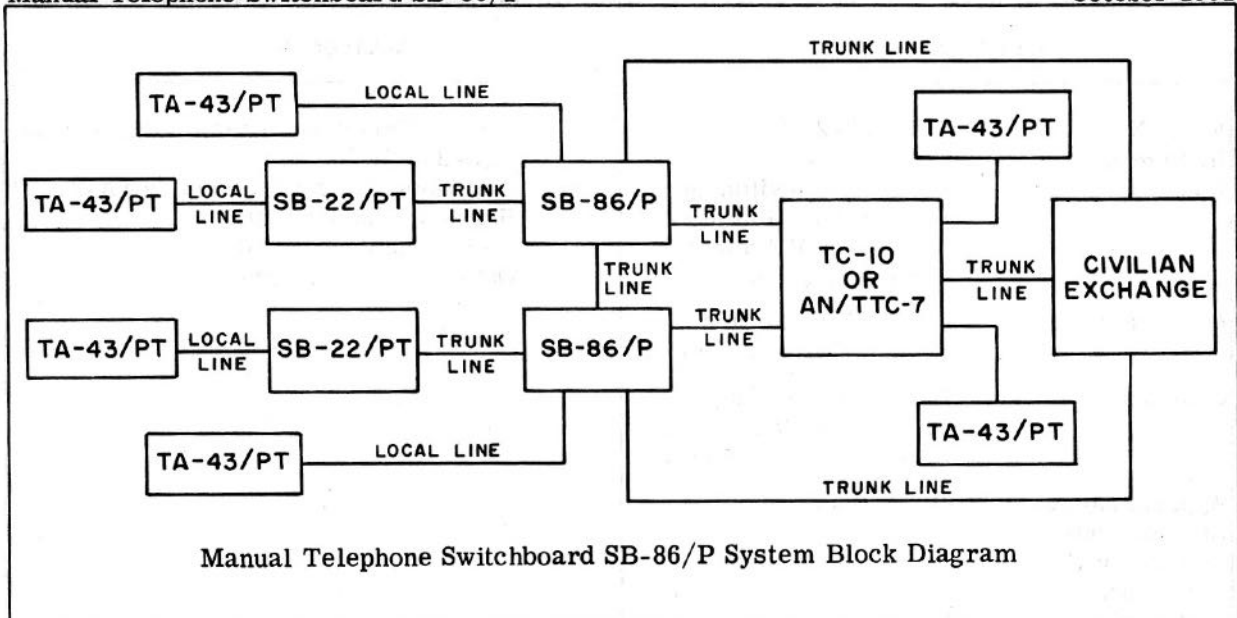


**Manual Telephone Switchboard SB-86/P.**

# MANUAL TELEPHONE SWITCHBOARD SB-86/P

Manual Telephone Switchboard SB-86/P

October 1961



Manual Telephone Switchboard SB-86/P System Block Diagram

OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS		
<p><b>Use:</b> Manual Telephone Switchboard SB-86/P is a local battery, field-type unit that connects up to 30 telephone lines or VF teletypewriter lines.</p> <p><b>Used with:</b> Field communication systems employing EE-8 telephones, TA-43/PT telephones, SB-22/PT switchboards, and TH-5/TG telegraph terminals.</p> <p><b>Installation:</b> Portable.</p>	<p><b>Number of lines:</b> With one jack field section 30 lines. With two jack field sections 60 lines.</p> <p><b>Number of cord circuits:</b> 16</p> <p><b>Ringing:</b> Manual or automatic.</p> <p><b>Conference calls:</b> One at a time.</p> <p><b>Types of signaling:</b> Common battery and magnets.</p> <p><b>Power requirements:</b> Ten batteries BA-200/U Four batteries BA-30.</p> <p><b>Protection:</b> Lightning arrestors each line.</p>		
SIMILAR EQUIPMENTS	PHYSICAL CHARACTERISTICS		
<p>Telephone Switchboard SB-22/PT is a mono-cord board with 12 line drops.</p>	Unit	Overall Weight (in lbs)	Cubic Feet
	SB-86/P	320	18

MANUAL TELEPHONE SWITCHBOARD SB-86/P

Revised  
Jan 1962

Manual Telephone Switchboard SB-86/P

PUBLICATIONS

SIG 7-8, Headset-Micro H-91A/U, Jul 58.  
SL-3-00277A, Switchboard Tel Man  
SB-86/P, Sep 61.  
TM 11-2134, Manual Teleph Swbd SB-86/P,  
Sep 55, Ch 2 May 61.  
TM 11-4134, Manual Teleph Swbd SB-86/P,  
Sep 55, Ch 1 Mar 56, Ch 2 Sep 56, Ch 3  
Jan 57.

TM 11-5805-257-12P, Generator Ringing  
Hand G-42/PT, Jul 59.  
TM 11-5805-257-35P, Generator Ringing  
Hand G-42/PT, Jul 59.  
TM 11-5805-304-20P, Switchboard Teleph  
Manual SB-86/P, May 61.  
TM 11-5805-304-35P, Switchboard Teleph  
Manual SB-86/P, May 61.

MANUAL TELEPHONE SWITCHBOARD SB-86/P

Manual Telephone Switchboard SB-86/P

October 1961

MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Organizational maintenance	Multimeter: Continuity checks 20 to 26.5 VDC	TS-297/U	TS-352 ( )/U	TM 11-2134, paragraphs 58 through 63.
Adjustments	Test set: 4 and 5 ma	I-181		TM 11-4134, paragraphs 40 through 45.
Final testing	Multimeter: 0 to 117 V 0 to 310 ma DC	TS-352( )/U	AN/PSM-4A	TM 11-4134, paragraphs 46 through 58.
	Signal generator: 1000 CPS	SG-15/PGM	TS-382( )/U	
	Decibel meter: 1.5 to 12.5 db	ME-22/PCM	TS-585D/U* ME-30C/U	
	Test set: 2 db	I-142		
	*Non T/A item			

MANUAL TELEPHONE SWITCHBOARD SB-86/P

October 1961

Manual Telephone Switchboard SB-86/P

EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
		No modifications authorized.



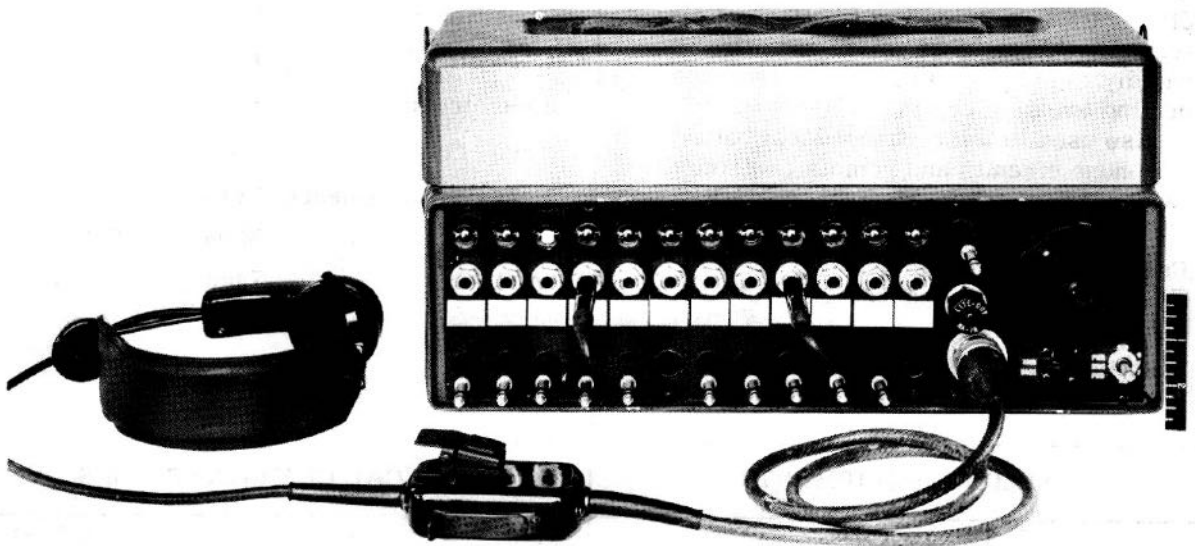


# MANUAL TELEPHONE SWITCHBOARD SB-22/PT

October 1961

Manual Telephone Switchboard SB-22/PT

GENERAL DATA	MAJOR UNITS
<p>F. S. N: 5805-257-3602                      ID Number: 00276A                      Function: Two-way communication                      Manufacturer: Stromberg Carlson Co.                                        Rochester, N. Y.                                        North Electric Co.                                        Gallian, Ohio</p> <p>Contracts: 4739-PH-52                                    4740-PH-52</p> <p>Approximate price: \$790.00                      Recommended operational checkout interval: <u>WEEKLY</u></p>	<p>(1) Switchboard SB-22/PT                      (1) Accessory kit MX-230/PT                      (1) Accessory kit MX-230A/PT</p>

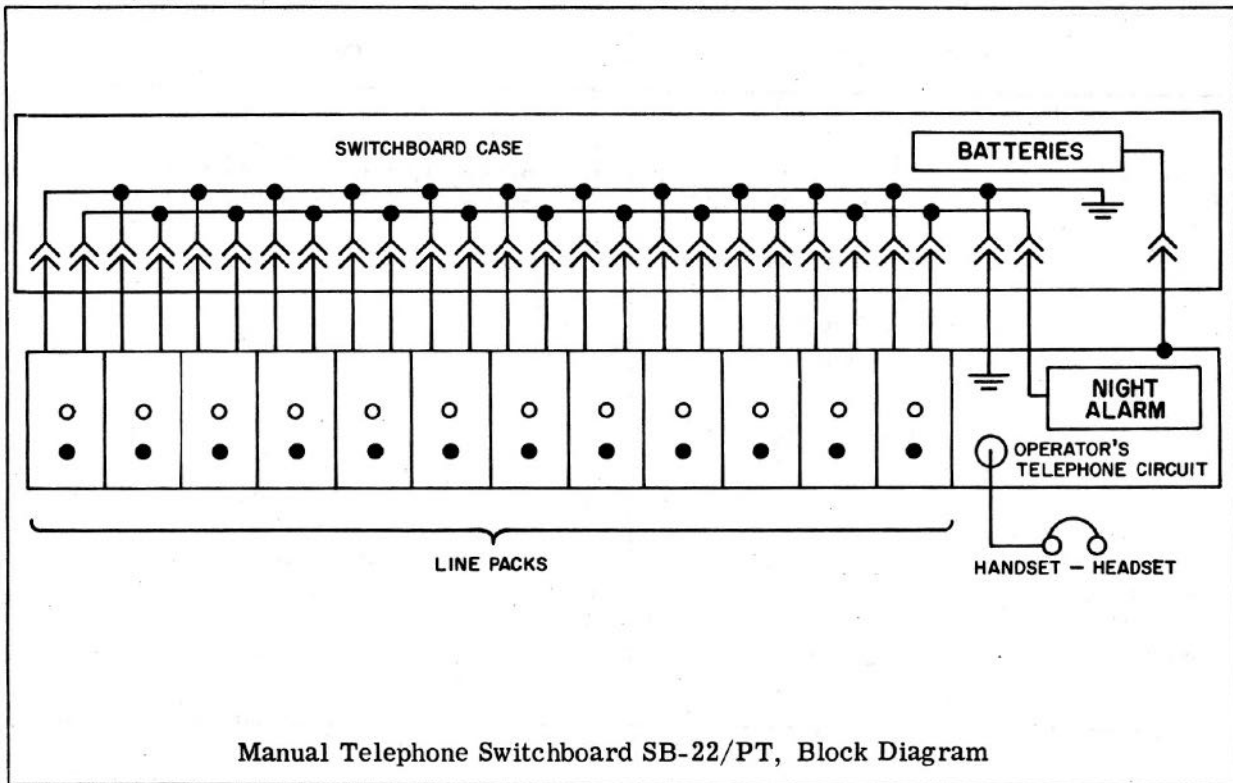


Manual Telephone Switchboard SB-22/PT.

# MANUAL TELEPHONE SWITCHBOARD SB-22/PT

Manual Telephone Switchboard SB-22/PT

October 1961



Manual Telephone Switchboard SB-22/PT, Block Diagram

OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS																							
<p>Use: Manual Telephone Switchboard SB-22/PT is a light, local battery, field-type switchboard that can be installed rapidly to provide facilities for interconnecting twelve circuits. The SB-22/PT is also used to interconnect local battery telephone circuits and remote controlled radio circuits and voice-frequency (VF) teletypewriter circuits.</p> <p>Used with: Telephone Sets EE-8 or TA-1/PT. Telegraph Terminal Group AN/TCC-14.</p> <p>Installation: Portable.</p>	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">No. of switchboard positions:</td> <td style="width: 30%;">1.</td> <td style="width: 40%;"></td> </tr> <tr> <td>Cord circuits:</td> <td>1.</td> <td></td> </tr> <tr> <td>Line circuits:</td> <td>12.</td> <td></td> </tr> <tr> <td>Trunk circuits:</td> <td>None.</td> <td></td> </tr> <tr> <td>Power requirements:</td> <td>3VDC.</td> <td></td> </tr> <tr> <td>Ringings:</td> <td>Manual 20 CPS.</td> <td></td> </tr> <tr> <td>Protection:</td> <td>Lightning arrestor in each line.</td> <td></td> </tr> </table>			No. of switchboard positions:	1.		Cord circuits:	1.		Line circuits:	12.		Trunk circuits:	None.		Power requirements:	3VDC.		Ringings:	Manual 20 CPS.		Protection:	Lightning arrestor in each line.	
No. of switchboard positions:	1.																							
Cord circuits:	1.																							
Line circuits:	12.																							
Trunk circuits:	None.																							
Power requirements:	3VDC.																							
Ringings:	Manual 20 CPS.																							
Protection:	Lightning arrestor in each line.																							
SIMILAR EQUIPMENTS	PHYSICAL CHARACTERISTICS																							
Switchboard BD-72.	Unit	Overall Weight (in lbs)	Cubic Feet																					
	SB-22/PT	58	2.6 (crated)																					

MANUAL TELEPHONE SWITCHBOARD SB-22/PT

Revised  
April 1962

Manual Telephone Switchboard SB-22/PT

PUBLICATIONS

SL-3-00276A, Switchboard Telephone Manual  
SB-22/PT, Jun 61.  
SL-4-00276A, Switchboard Telephone Manual  
SB-22/PT, Mar 61.

TM 11-5805-262-12, Switchboard Telephone  
Manual SB-22/PT and SB-22A/PT, Dec 60.  
TM 11-5805-262-35, Switchboard Telephone  
Manual SB-22/PT and SB-22A/PT, Feb 61.  
TM 11-5965-206-12P, OP/ORG MT  
Handset/Headset H-144/0, Oct 60.

MANUAL TELEPHONE SWITCHBOARD SB-22/PT

Manual Telephone Switchboard SB-22/PT

October 1961

MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Operator's maintenance	No special tools or equipment required			TM 11-5805-262-12, paragraphs 38 through 50.
Third echelon adjustments	Tool equipment	TE-49		TM 11-5805-262-35, paragraphs 43 through 45.
Fourth echelon testing procedures	Multimeter	AN/URM-105	TS-352( )/U	TM 11-5805-262-35, paragraphs 52 through 61.
	Multimeter: 0 to infinity (ohms)	AN/URM-105	TS-352( )/U	
	Test set: 12 ma	I-181( )		
	Test set: 1 KC signal -11 dbm	TS-140/PCM	LO ( ) TS-585/U*	
	Telephone test set: -4 db, 0 db	AN/TPM-6		
	* Non T/A item			

MANUAL TELEPHONE SWITCHBOARD SB-22/PT

October 1961

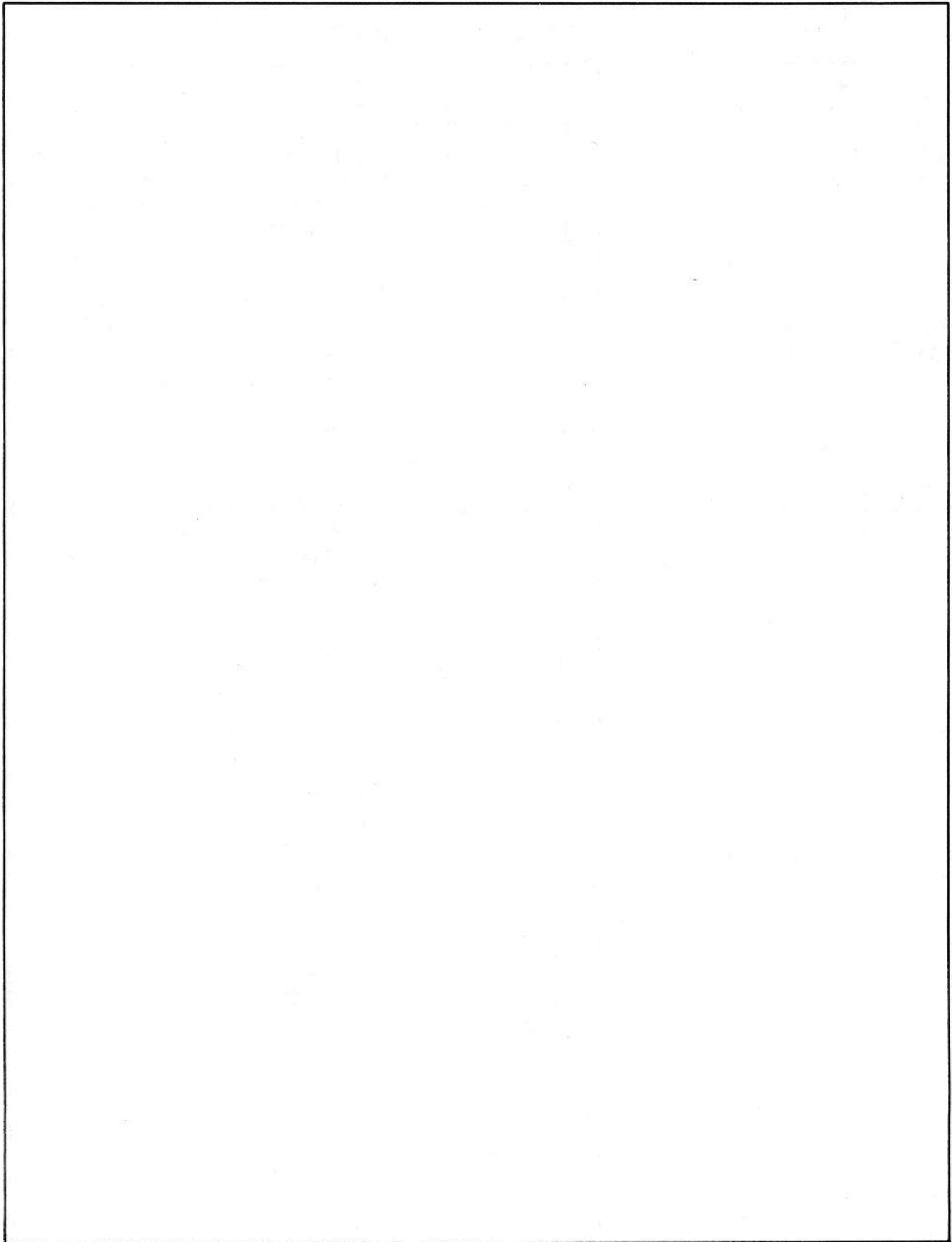
Manual Telephone Switchboard SB-22/PT

EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
MCO 2005. 49 Sup 2: Switchboard modification.	SB-22/PT	Hand Ringing Generator G-41/PT replaced by Hand Ringing Generator G-42/PT. Operator's retractable cord reel assembly replaced by nonretractable type. Addition of a telephone jack which permits opening the operator's telephone transmitter.
MCO 2005. 49 Sup 2 Ch 1:	SB-22/PT	Paragraph 7. a: last item deleted; replaced by: "Tubing 1/2 inch outer diameter, 5/16 inch inner diameter; stock number 4720-189-9719; quantity: 5 1/2 inches."
MCO 2005. 49 Sup 2 Ch 2:	SB-22/PT	In subparagraph 7b delete Federal Stock Number 5805-503-1469 and insert 4B910-1.

MANUAL TELEPHONE SWITCHBOARD SB-22/PT

Manual Telephone Switchboard SB-22/PT

October 1961

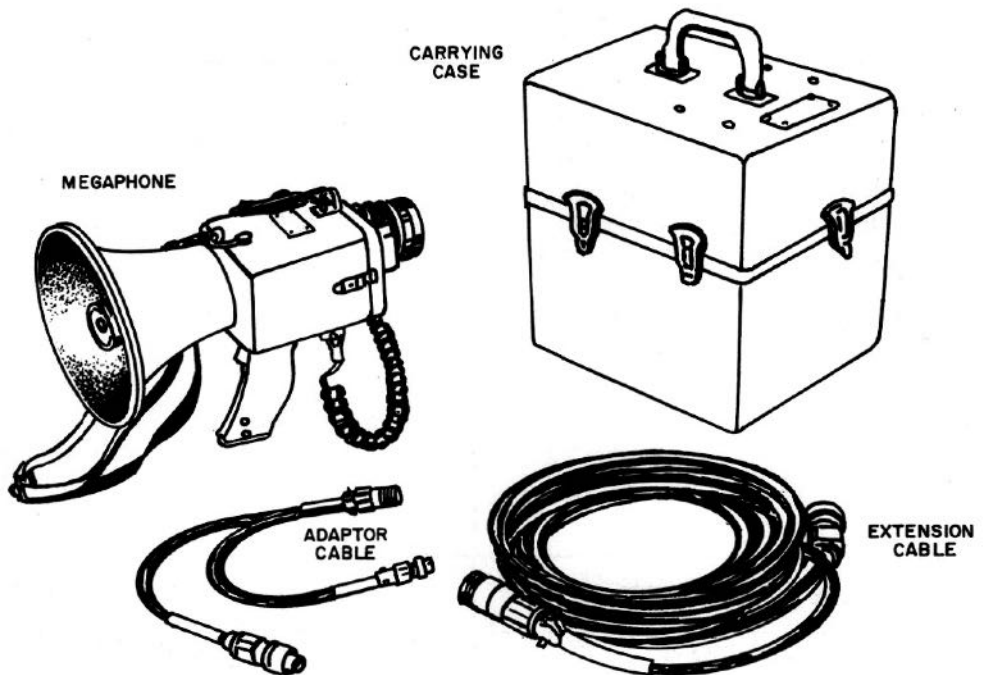


PUBLIC ADDRESS SET AN/PIQ-5

October 1961

Public Address Set AN/PIQ-5

GENERAL DATA		MAJOR UNITS	
F. S. N:	5830-688-6633	(1)	Megaphone
ID Number:	02543A	(1)	Carrying case
Function:	Amplifies the human voice.	(1)	Adaptor cable
		(1)	Extension cable
Manufacturer:	Audio Equip. Co. Inc., Port Washington, N. Y.		
Contracts:	NOM 71527		
Approximate price:	\$164.00		
Recommended operational checkout interval:	<u>WEEKLY</u>		



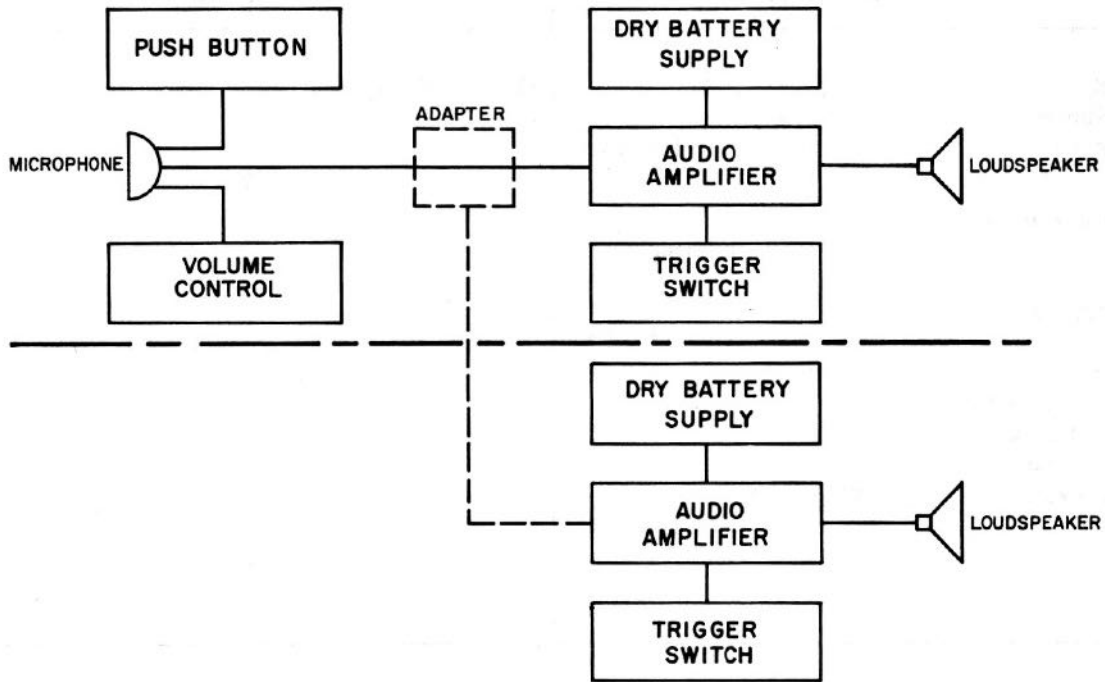
Public Address Set AN/PIQ-5.



PUBLIC ADDRESS SET AN/PIQ-5

Public Address Set AN/PIQ-5

October 1961



Public Address Set AN/PIQ-5 Block Diagram.

OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS		
<p>Use: The AN/PIQ-5 equipment permits amplifying the human voice sufficiently so that commands or instructions may be understood by personnel over distances too far for the unaided voice to be understood, or in locations where noise interferes with message intelligibility.</p> <p>Used with:</p> <p>Installation: Portable.</p>	<p>Electric ratings: Rated power output is 15 volt-amperes at 10% distortion.</p> <p>Input impedance: 400 ohms nominal.</p> <p>Output impedance: 10 ohms nominal.</p> <p>Amplifier voltage gain: 46 db.</p> <p>Power supply: 15 volts (ten type BA-30 dry cell batteries in series).</p>		
SIMILAR EQUIPMENTS	PHYSICAL CHARACTERISTICS		
Public Address Set AN/PIQ-3.	Unit	Overall Weight (in lbs)	Cubic Feet
	AN/PIQ-5	22	1.6 (crated)

PUBLIC ADDRESS SET AN/PIQ-5

October 1961

Public Address Set AN/PIQ-5

PUBLICATIONS

TM-02543A-15, Public Address Set  
AN/PIQ-5, Nov 60.

SL-4-02543A, Public Address Set  
AN/PIQ-5, Jul 61.

PUBLIC ADDRESS SET AN/PIQ-5

Public Address Set AN/PIQ-5

October 1961

MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Operator's maintenance	Voltmeter: 0 to 1.5 VDC	AN/PSM-4A	TS-352 ( )/U	TM 02543A-15, paragraph 3-4.
Overall trouble-shooting	Multimeter: 0 to 14 VDC and 1.75 amps DC	AN/PSM-4A	TS-352 ( )/U	TM 02543A-15, paragraphs 5-3 through 5-4.
	Audio oscillator: 1000 CPS	TS-382 ( )/U	LO-3	
	VTVM: 0 to 11.6 VAC	ME-6 ( )/U	ME-30/U	
	Oscilloscope	OS-8 ( )/U	OS-10/U*	
	*Non T/A item			

October 1961

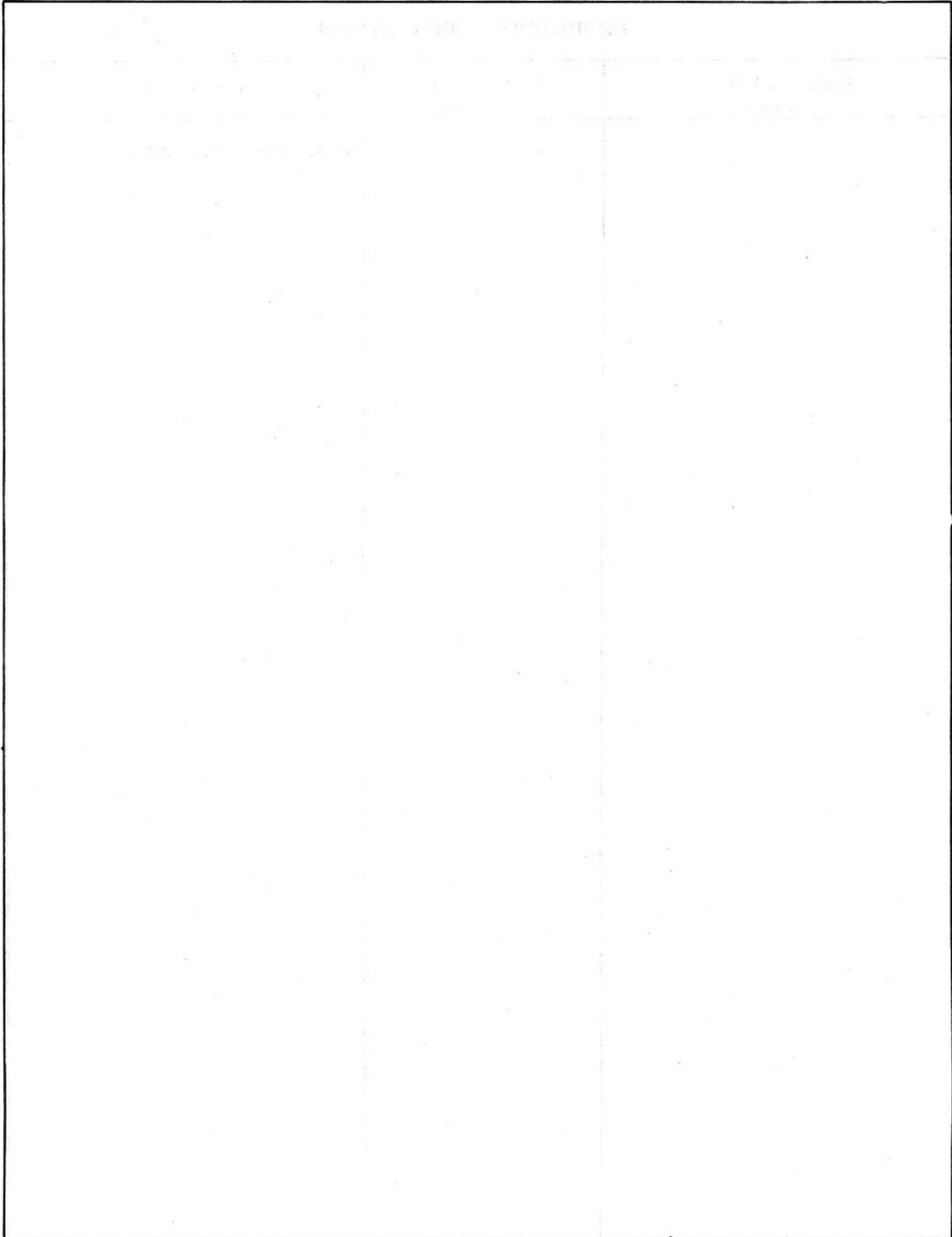
Public Address Set AN/PIQ-5

EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
		No modifications authorized.

PUBLIC ADDRESS SET AN/PIQ-5

Public Address Set AN/PIQ-5

October 1961

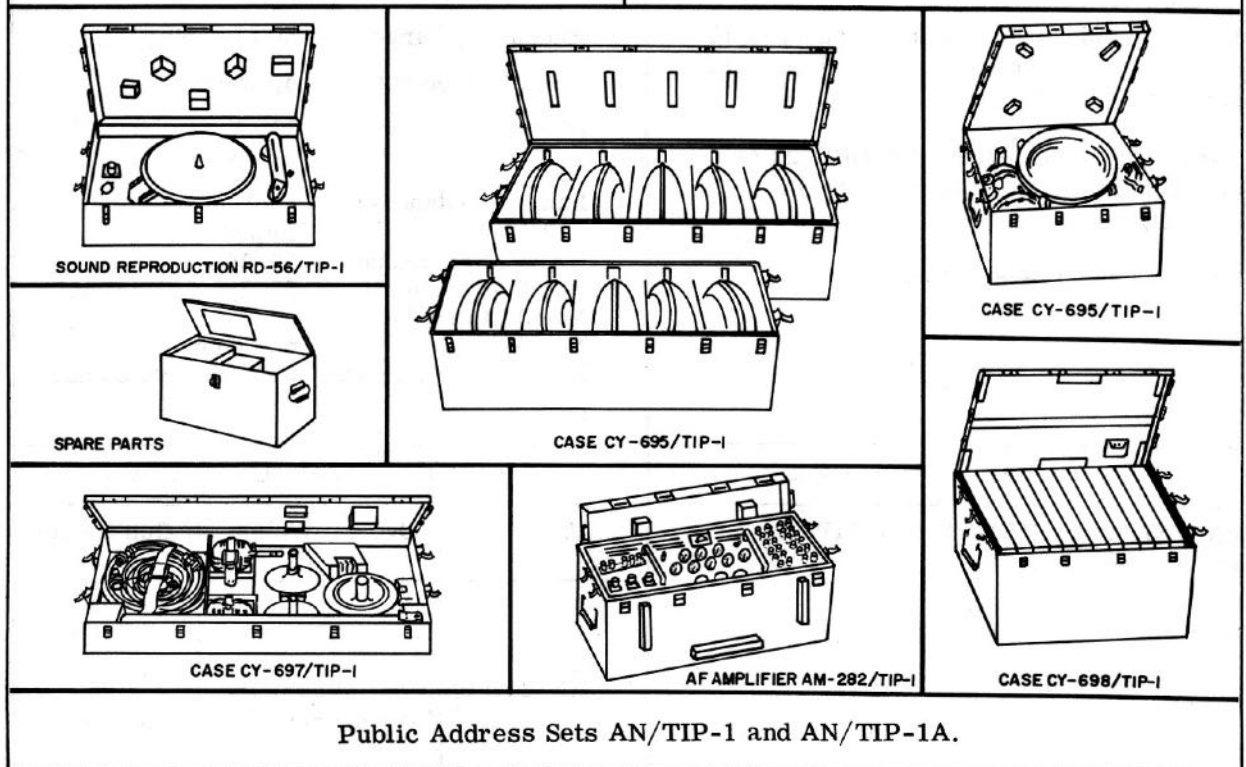


PUBLIC ADDRESS SETS AN/TIP-1 AND AN/TIP-1A

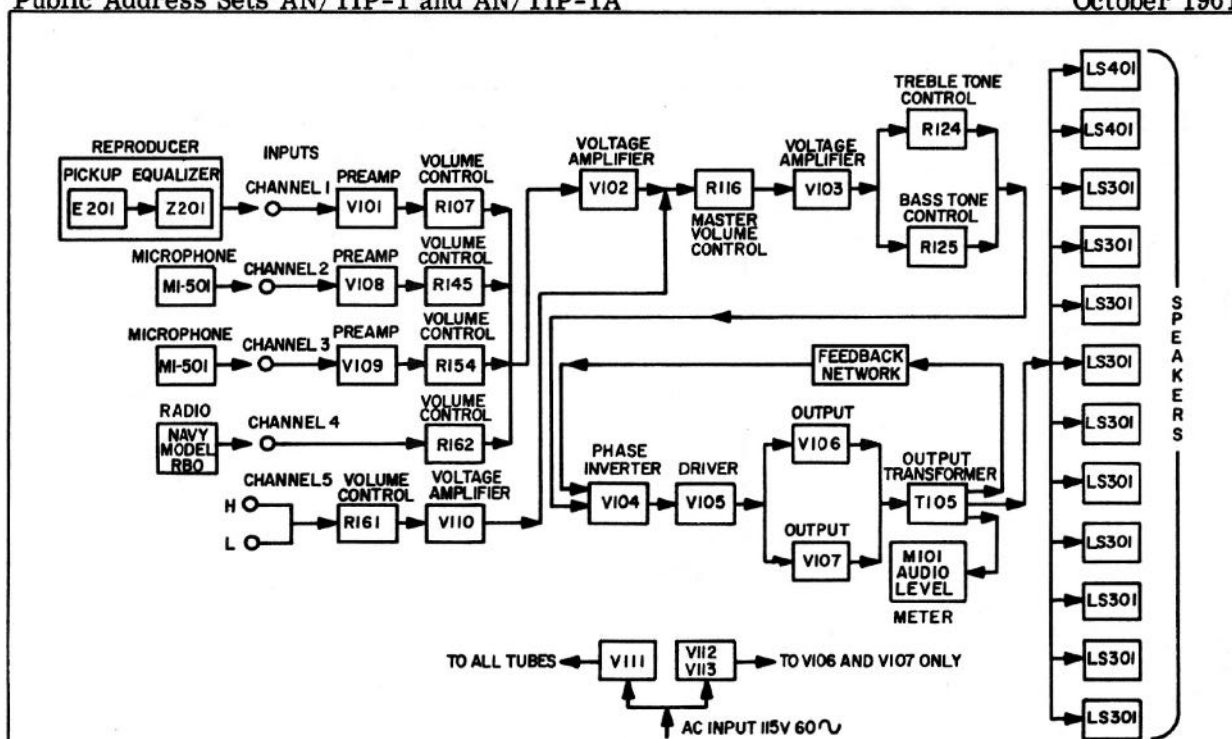
October 1961

Public Address Sets AN/TIP-1 and AN/TIP-1A

GENERAL DATA	MAJOR UNITS
<p>F. S. N: AN/TIP-1, 5830-240-3649 AN/TIP-1A, 5830-505-1280</p> <p>ID Number: AN/TIP-1, 00021A AN/TIP-1A, 00021B</p> <p>Function: Audio amplification</p> <p>Manufacturer: AN/TIP-1, David Bogen Co., Inc. New York, New York AN/TIP-1A, Seaboard Electric Co. New York, New York</p> <p>Contracts: Bogen - NObsr 39346 Seaboard - NObsr 49045</p> <p>Approximate price: \$1,200.00</p> <p>Recommended operational checkout interval: <u>WEEKLY</u></p>	<p>(1) AF Amplifier AM-282A/TIP-1 (1) Sound Reproducer RD-56A/TIP-1 (1) Case CY-695A/TIP-1 (2) Case CY-696A/TIP-1 (1) Case CY-697A/TIP-1 (1) Case CY-698A/TIP-1</p> <p>Note: The AN/TIP-1 has the same number of components as the AN/TIP-1A.</p>



Public Address Sets AN/TIP-1 and AN/TIP-1A.



Public Address Sets AN/TIP-1 and AN/TIP-1A, Functional Block Diagram.

OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS														
<p>Use: Provides a high quality loudspeaker system for microphones, electrical transcription and radio inputs.</p> <p>Used with: RBO, RBZ, AN/URR-23 or tape recorders, for instructional or recreational purposes.</p> <p>Installation: Transportable</p>	<p>Frequency range: 50 to 8000 CPS.</p> <p>Amplifier output: 60 watts.</p> <p>Power: 115 VAC, 50 or 60 CPS, 300 watts.</p> <p>Input impedances:</p> <table border="0"> <tr> <td>Channel</td> <td>Impedance</td> </tr> <tr> <td>No. 1 Microphone</td> <td>50/250/500 ohms,</td> </tr> <tr> <td>No. 2 Microphone</td> <td>50/250/500 ohms,</td> </tr> <tr> <td>No. 3 Microphone</td> <td>50/250/500 ohms,</td> </tr> <tr> <td>No. 4 Radio</td> <td>600 ohms,</td> </tr> <tr> <td>No. 5 Miscellaneous</td> <td>5000/50,000 ohms.</td> </tr> </table> <p>Output impedance: 30 ohms.</p>	Channel	Impedance	No. 1 Microphone	50/250/500 ohms,	No. 2 Microphone	50/250/500 ohms,	No. 3 Microphone	50/250/500 ohms,	No. 4 Radio	600 ohms,	No. 5 Miscellaneous	5000/50,000 ohms.		
Channel	Impedance														
No. 1 Microphone	50/250/500 ohms,														
No. 2 Microphone	50/250/500 ohms,														
No. 3 Microphone	50/250/500 ohms,														
No. 4 Radio	600 ohms,														
No. 5 Miscellaneous	5000/50,000 ohms.														
SIMILAR EQUIPMENTS	PHYSICAL CHARACTERISTICS														
<p>AN/TIQ-2, AN/TIQ-2A, AN/TIP-2, and AN/PIQ-3.</p>	Unit	Overall Weight (in lbs)	Cubic Feet												
	AN/TIP-1	912 (in 8 packages)	65 (crated)												
	AN/TIP-1A	1081 (in 8 packages)	93 (crated)												

PUBLIC ADDRESS SETS AN/TIP-1 AND AN/TIP-1A

October 1961

Public Address Sets AN/TIP-1 and AN/TIP-1A

PUBLICATIONS

D/L VOL 1, Public Address Set AN/TIP-1,  
May 52.  
NAVSHIPS 91168, Instruction Book  
AN/TIP-1, Feb 49.  
SIG M8, Public Address Set AN/TIP-1,  
Mar 51.  
SIG M8 SUPP, Public Address Set AN/TIP-1,  
Mar 57.

D/L VOL 1, Public Address Set AN/TIP-1A,  
Mar 57.  
NAVSHIPS 91419, Instruction Book  
AN/TIP-1A, Feb 51.  
SIG M8, Public Address Set AN/TIP-1A,  
Mar 51.  
SIG M8 SUPP, Public Address Set  
AN/TIP-1A, Mar 57.



PUBLIC ADDRESS SETS AN/TIP-1 AND AN/TIP-1A

Public Address Sets AN/TIP-1 and AN/TIP-1A

October 1961

MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
AN/TIP-1				
Operator's maintenance	No special tools or equipment required			NAVSHIPS 91168, Sections 5-1 through 5-5.
Corrective maintenance	Signal generator: 1000 CPS	LO- ( )	TS-382( )/U LAJ- ( )*	NAVSHIPS 91168, Sections 7-1 through 7-6.
	VTVM: 0.55 to 2.44 VAC	OBQ- ( )	TS-505/U ME-25( )/U	
	Oscilloscope	OS-8( )/U	OS-10/U* AN/USM-24( )	
AN/TIP-1A				
Operator's maintenance	No special tools or equipment required			NAVSHIPS 91419, Sections 5-1 through 5-5.
Corrective maintenance	Signal generator: 1000 CPS	LO- ( )	TS-382( )/U LAJ- ( )*	NAVSHIPS 91419, Sections 7-1 through 7-6.
	VTVM: 0.55 to 2.44 VAC	OBQ- ( )	TS-505/U ME-25( )/U	
	Oscilloscope	OS-8( )/U	OS-10/U* AN/USM-24( )	
	* Non T/A item.			

PUBLIC ADDRESS SETS AN/TIP-1 AND AN/TIP-1A

October 1961

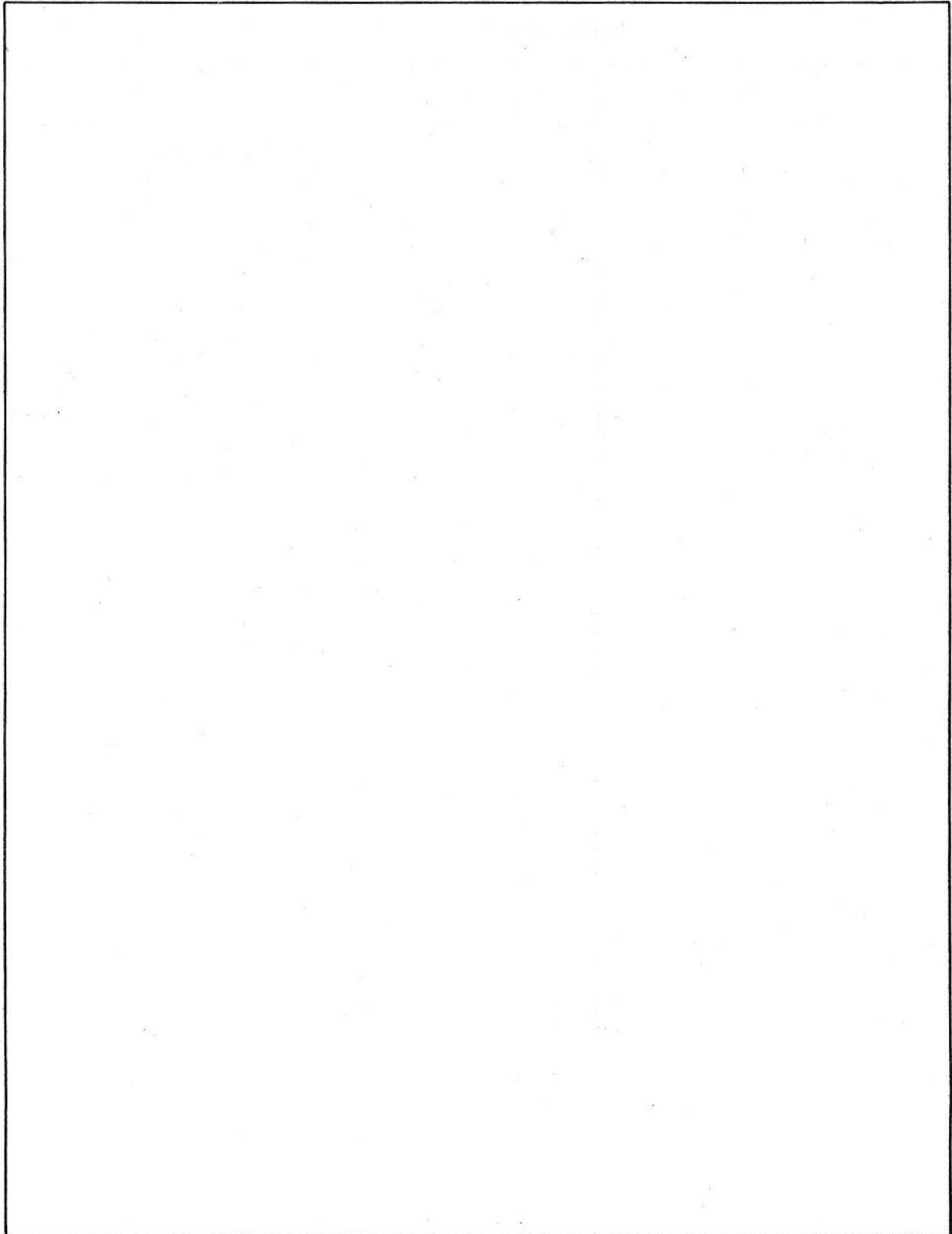
Public Address Sets AN/TIP-1 and AN/TIP-1A

EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
		No modifications authorized.

PUBLIC ADDRESS SETS AN/TIP-1 AND AN/TIP-1A

Public Address Sets AN/TIP-1 and AN/TIP-1A

October 1961

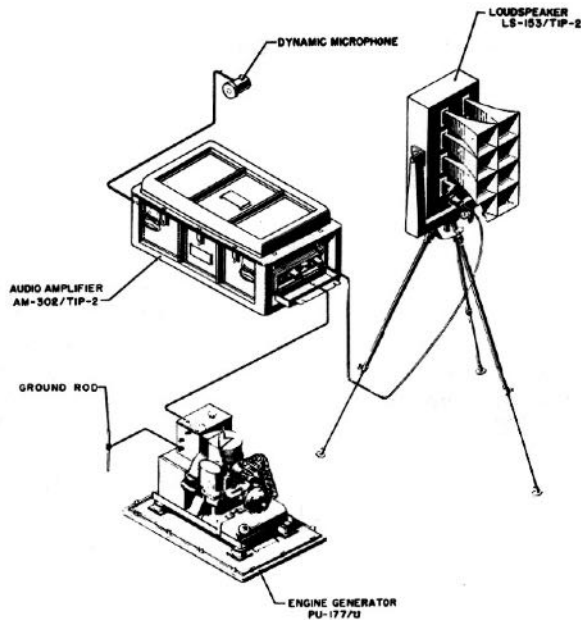


PUBLIC ADDRESS SET AN TIP-2

October 1961

Public Address Set AN TIP-2

GENERAL DATA		MAJOR UNITS	
F. S. N:	5820-538-2602	(1)	Audio Amplifier AM-302 TIP-2
ID Number:	00094A	(1)	Engine Generator PU-177/U
Function:	High gain system for the distant projection of sound.	(1)	Loudspeaker LS-153/TIP-2
Manufacturer:	Stromberg Carlson Rochester, N. Y.	(1)	Accessories case CY-719/TIP-2
Contracts:	NObsr 46711		
Approximate price:	\$4,800.00		
Recommended operational checkout interval:	<u>BI-WEEKLY</u>		

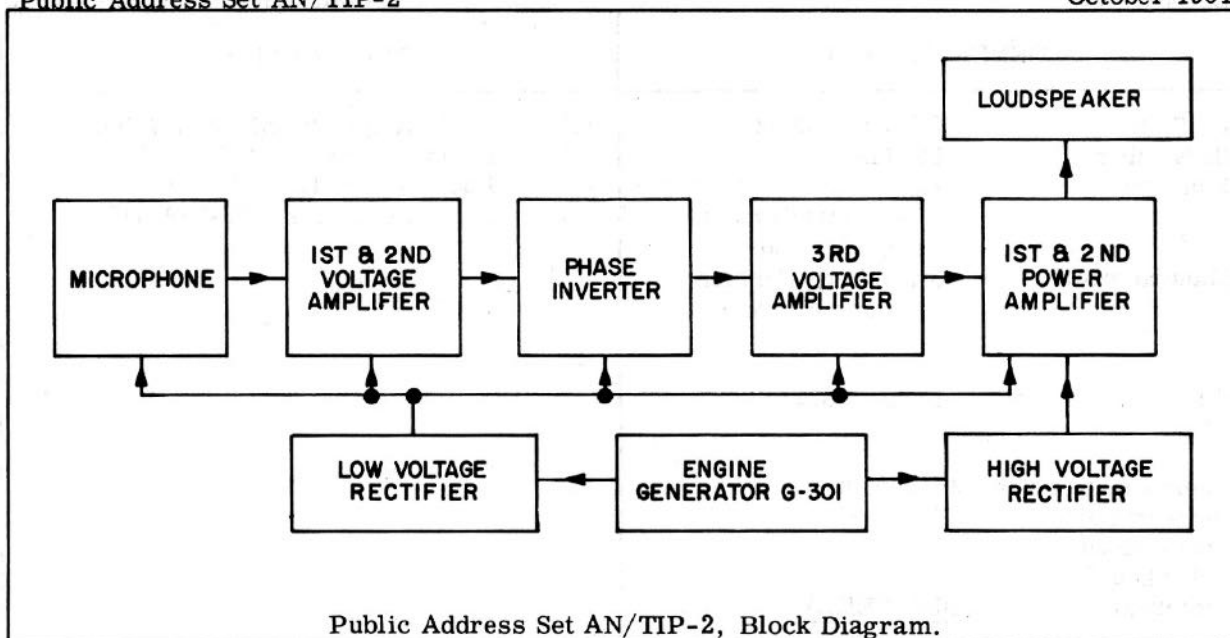


Public Address Set AN/TIP-2.

PUBLIC ADDRESS SET AN/TIP-2

Public Address Set AN/TIP-2

October 1961



Public Address Set AN/TIP-2, Block Diagram.

OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS								
<p>Use: Primarily used to direct personnel during landing operations.</p> <p>Used with:</p> <p>Installation: Transportable</p>	<p>Frequency range: 350 to 5000 CPS</p> <p>Power requirements: 1100 watts, 115 60 CPS</p> <p>Operating temperature limits: -40° to 130° F</p> <p>Impedance: 16 ohms at 500 W</p> <p>Range: 10,000 feet under optimum conditions.</p>								
SIMILAR EQUIPMENTS	PHYSICAL CHARACTERISTICS								
<p>Public Address Sets AN/TIP-1 and AN/TIQ-2. These sets are less powerful and less rugged than the AN/TIP-2.</p>	<table border="1"> <thead> <tr> <th>Unit</th> <th>Overall Weight (in lbs)</th> <th>Cubic Feet</th> </tr> </thead> <tbody> <tr> <td>AN/TIP-2</td> <td>1122 (in 6 packages)</td> <td>37 (crated)</td> </tr> </tbody> </table>	Unit	Overall Weight (in lbs)	Cubic Feet	AN/TIP-2	1122 (in 6 packages)	37 (crated)		
Unit	Overall Weight (in lbs)	Cubic Feet							
AN/TIP-2	1122 (in 6 packages)	37 (crated)							

PUBLIC ADDRESS SET AN/TIP-2

October 1961

Public Address Set AN/TIP-2

PUBLICATIONS

D/L VOL 1, Public Address Set AN/TIP-2,  
May 52.  
NAVSHIPS 365-1907, Public Address Set  
AN/TIP-2, Aug 50.

SIG M8, Public Address Set AN/TIP-2,  
Mar 51.  
SIG M8 SUPP, Public Address Set AN/TIP-2,  
Oct 56.

PUBLIC ADDRESS SET AN/TIP-2

Public Address Set AN/TIP-2

October 1961

MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Operator's maintenance	No special tools or equipment required			NAVSHIPS 365-1907, Sections 5 and 6.
Corrective maintenance	Signal generator: 1000 CPS	TS-382 ( )/U	LO- ( )	NAVSHIPS 365-1907, Section 7.
	Oscilloscope	OS-8/U	AN/USM-24 ( )/U	

October 1961

Public Address Set AN/TIP-2

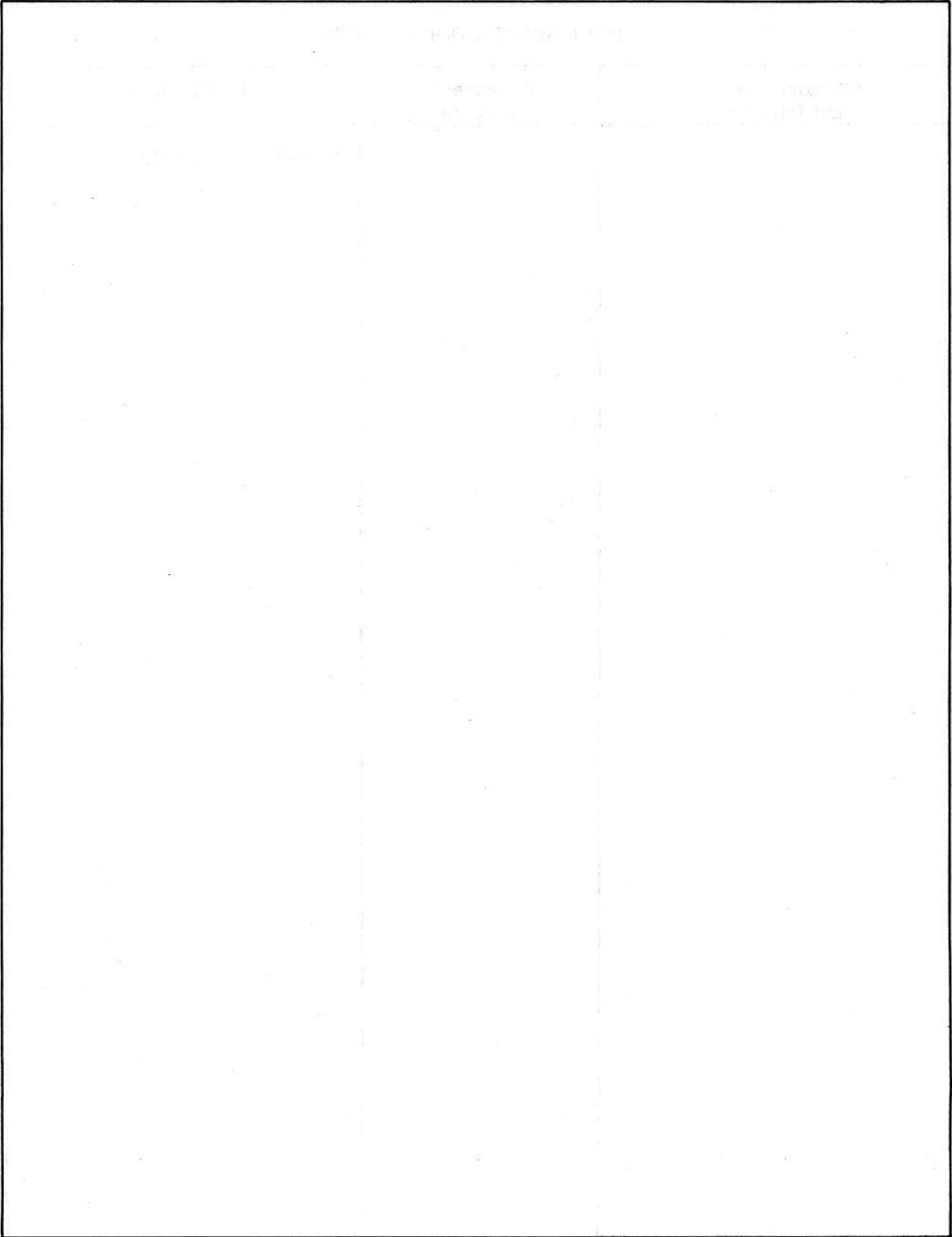
EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
		No modifications authorized.



PUBLIC ADDRESS SET AN/TIP-2

Public Address Set AN/TIP-2

October 1961

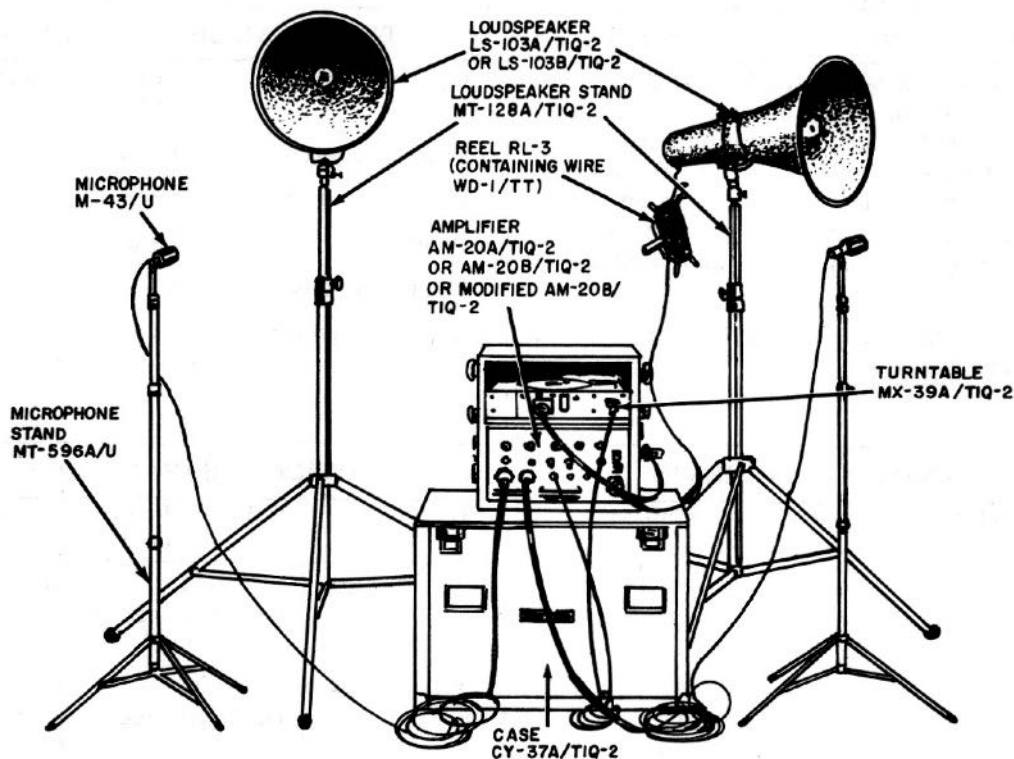


PUBLIC ADDRESS SETS AN/TIQ-2 AND AN/TIQ-2A

Revised  
April 1962

Public Address Sets AN/TIQ-2 and AN/TIQ-2A

GENERAL DATA	MAJOR UNITS
<p>F. S. N: AN/TIQ-2, 5830-164-6618 AN/TIQ-2A, 5830-164-6622</p> <p>ID Number: AN/TIQ-2, 0.00095A AN/TIQ-2A, 0.00095B</p> <p>Function: Amplifies and projects speech or music.</p> <p>Manufacturer: Espey Manufacturing Co. New York, N. Y.</p> <p>Contracts: 8504-PH-48</p> <p>Approximate price: \$900.00</p> <p>Recommended operational checkout interval: <u>WEEKLY</u></p>	<p>(1) Amplifier, Audio Frequency AM-20A/TIQ-2.</p> <p>(2) Loudspeaker, LS-103A/TIQ-2.</p> <p>(2) Microphone, Dynamic M-43/U.</p> <p>(1) Microphone, Dynamic M-30/J.</p> <p>(1) Record Player MX-39A/TIQ-2.</p> <p>Note: Above listing is for the AN/TIQ-2A, the AN/TIQ-2 model is essentially the same.</p>

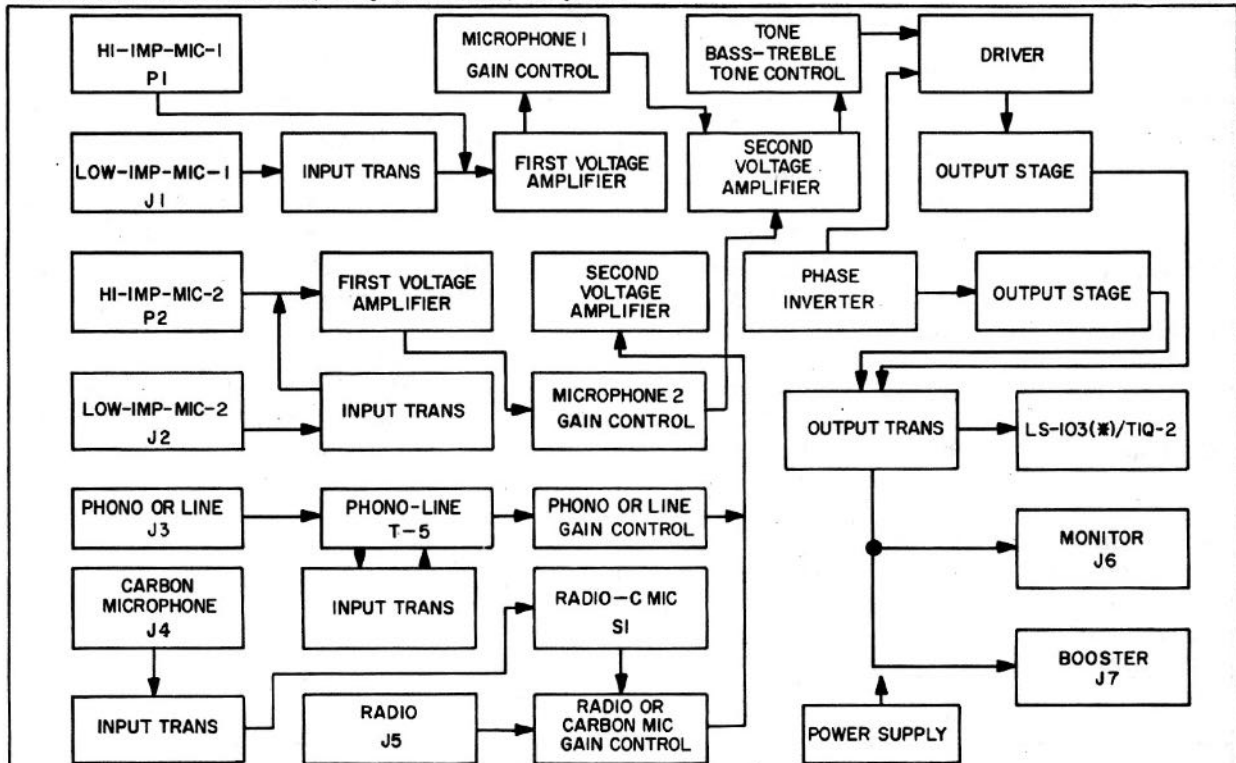


Public Address Sets AN/TIQ-2 and AN/TIQ-2A

PUBLIC ADDRESS SETS AN/TIQ-2 AND AN/TIQ-2A

Public Address Sets AN/TIQ-2 and AN/TIQ-2A

October 1961



Public Address Sets AN/TIQ-2 and AN/TIQ-2A Block Diagram.

OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS		
<p>Use: Public Address Set AN/TIQ-2 is a transportable, medium-power, sound amplifying and projecting equipment used to project speech, music, or signals from radio, communication circuits, or records, for special service and morale applications or for use by military police and security troops.</p> <p>Used with: Recreational type radio receivers.</p> <p>Installation: Portable.</p>	<p>Input voltage: 115 or 230 volts, 60 CPS.</p> <p>Power required: 150 watts.</p> <p>Frequency range: 50 to 10,000 cycles.</p> <p>Power output: 20 watts.</p> <p>Input channels: 8.</p> <p>Auxiliary power: 6 to 12 volt vibrator power-pack.</p>		
SIMILAR EQUIPMENTS	PHYSICAL CHARACTERISTICS		
<p>AN/TIP-1 and AN/TIP-1A are similar except for output power; 60 watts.</p>	<p>Unit</p>	<p>Overall Weight (in lbs)</p>	<p>Cubic Feet</p>
	AN/TIQ-2	634 (in 3 packages)	27 (crated)
	AN/TIQ-2A	523 (in 2 packages)	29 (crated)

Revised  
April 1962

PUBLIC ADDRESS SETS AN/TIQ-2 AND AN/TIQ-2A

Public Address Sets AN/TIQ-2 and AN/TIQ-2A

PUBLICATIONS

TM 11-2586, Public Address Sets AN/TIQ-2, AN/TIQ-2A, and AN/TIQ-2B, Nov 55.

TM 11-5630-206-10P, Public Address Sets AN/TIQ-2, AN/TIQ-2A, and AN/TIQ-2B, Feb 59.

TM 11-5830-206-20P, Public Address Sets AN/TIQ-2, AN/TIQ-2A, and AN/TIQ-2B, Feb 59 and Ch 2 Sep 60.

TM 11-5830-206-35P, Public Address Sets AN/TIQ-2, AN/TIQ-2A, and AN/TIQ-2B, Ch 2 Feb 59.

TM 11-5965-200-15P, Microphone Stands MT-596/U, MT-596/A, MT-596/B, Jan 59.

TM 11-5965-230-12P, Headsets HS-30 Series, Jul 59.

TM 11-5965-230-35P, Headsets HS-30 Series, Jul 59.

SL-3-0095B, Public Address Set AN/TIQ-2A Mar 61 and Ch 1 Jun 61, Ch 2 Dec 61.

TM-11-2586, Public Address Sets AN/TIQ-2, AN/TIQ-2A, and AN/TIQ-2B, Nov 55.

TM-11-5830-206-35P, Public Address Sets AN/TIQ-2, AN/TIQ-2A, and AN/TIQ-2B, Feb 59 and Ch 2 Aug 60.

TM 11-5965-200-15P, Microphone Stands MT-596/U, MT-596/A, MT-596/B, Jan 59.

TM 11-5965-230-12P, Headsets HS-30 Series, Jul 59.

TM 11-5965-230-35P, Headsets HS-30 Series, Jul 59.

PUBLIC ADDRESS SETS AN/TIQ-2 AND AN/TIQ-2A

Public Address Sets AN/TIQ-2 and AN/TIQ-2A

October 1961

MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Fourth echelon testing procedures	Signal generator: 1000 CPS.	TS-382D/U	LAJ* LO-( )	TM 11-2586 paragraphs 100.1 through 100.9.
	VTVM: 38 to 70.7 VAC.	TS-505/U	ME-25( )/U	
	Output meter: .0026 to 0.26 volt.	ME-30B/U	HP-400D*	
	Decade resistor: 10,000 ohms.	TS-679/U		
	Spectrum analyzer: 0.71 to 2.25 volts.	TS-723A/U	HP-330B*	
Organizational maintenance	Multimeter: (voltage and resistance readings).	TS-352( )/U	AN/PSM-4A	TM 11-2586, Chapter 4, paragraphs 51 through 73.
	Tube tester:	TV-7( )/U	TV-3( )/U*	
Final testing	Audio signal generator: 50 to 10,000 CPS.	TS-382( )/U	LO-( )	TM 11-2586, Chapter 6, paragraphs 10 through 108.
	Multimeter: 10 to 70.7 VAC, 3.2 VDC.	TS-352( )/U	AN/PSM-4A	
	Variable power transformer:	CN-16( )/U	NT302778	
	Multimeter: .0026 to .71 VAC.	ME-6A/U	ME-30C/U	
	Spectrum analyzer: 0.71 to 2.25 volts.	TS-723A/U	HP-330B*	
	Decade resistor:	TS-679/U		
	* Non T/A items.			

PUBLIC ADDRESS SETS AN/TIQ-2 AND AN/TIQ-2A

October 1961

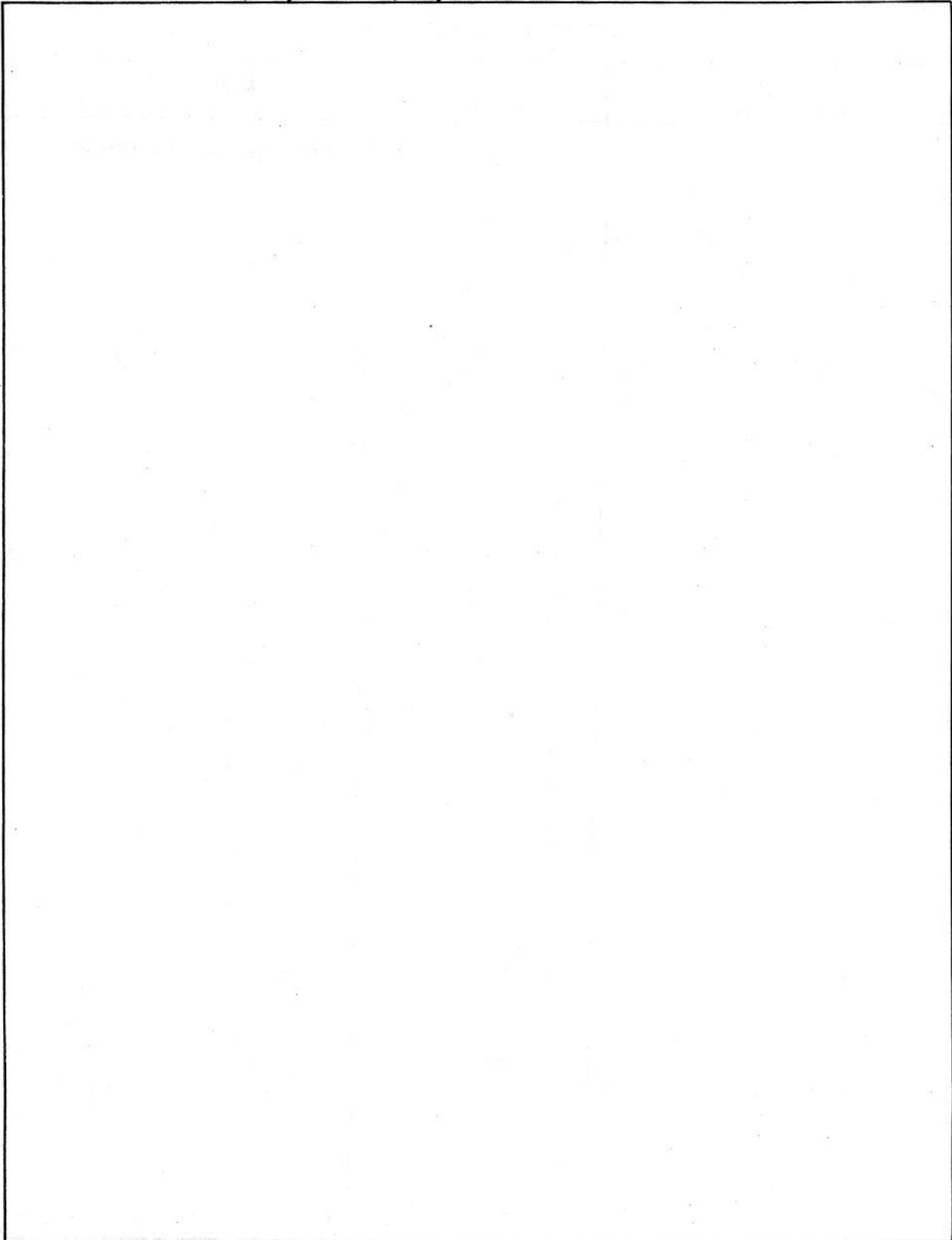
Public Address Sets AN/TIQ-2 and AN/TIQ-2A

EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
		No modifications authorized.

PUBLIC ADDRESS SETS AN/TIQ-2 AND AN/TIQ-2A

Public Address Sets AN/TIQ-2 and AN/TIQ-2A

October 1961



RADIO RECEIVER AN/URR-23A

October 1961

Radio Receiver AN/URR-23A

GENERAL DATA		MAJOR UNITS	
F. S. N:	5820-642-6855	(1)	Receiver, R-388/URR
ID Number:	00129B	(1)	Speaker, LS-199/U
Function:	General purpose receiver for reception of frequency shift keying signals.		
Manufacturer:	Collins Radio Co., Cedar Rapids, Iowa.		
Contracts:	NObsr 52527		
Approximate price:	\$950.		
Recommended operational checkout interval:	<u>WEEKLY</u>		



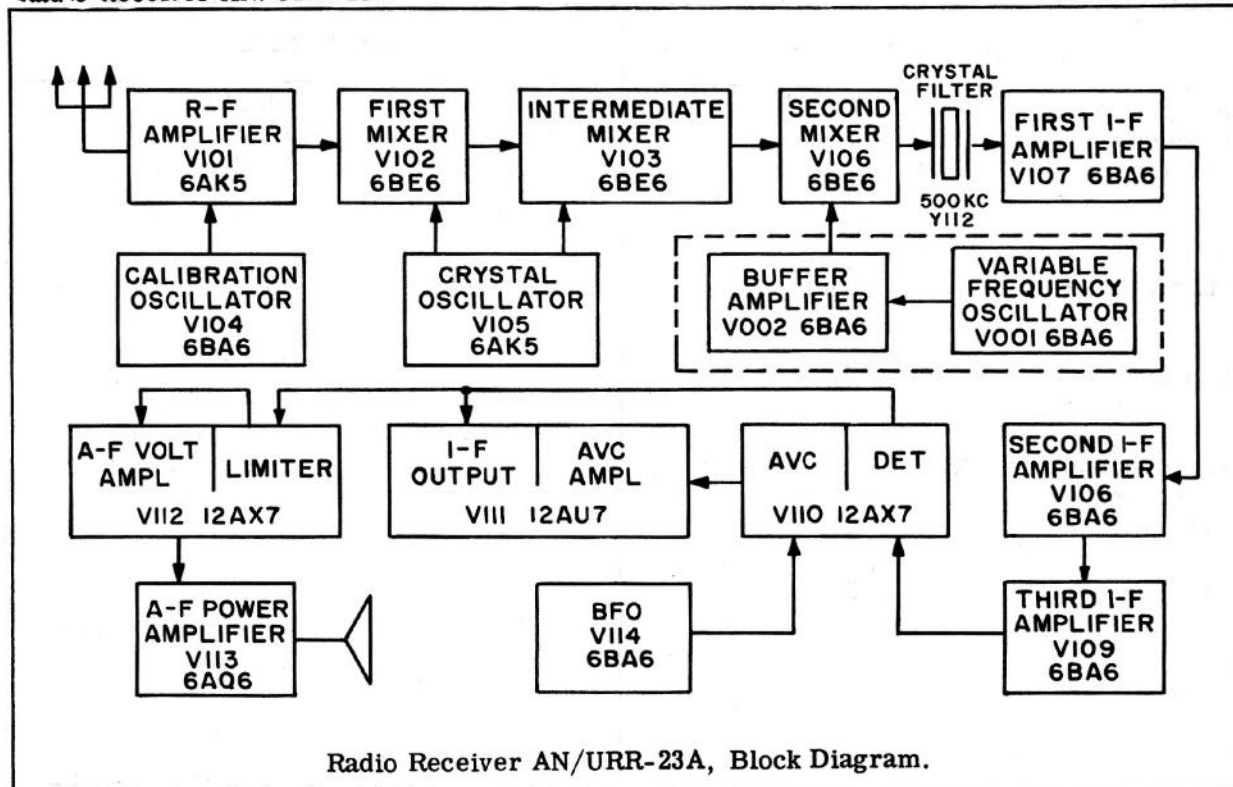
Radio Receiver AN/URR-23A.



# RADIO RECEIVER AN/URR-23A

Radio Receiver AN/URR-23A

October 1961



Radio Receiver AN/URR-23A, Block Diagram.

OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS							
<p>Use: General purpose communication receiver having exceptional frequency stability and calibration accuracy. Particularly adaptable to the reception of radio teletype signals.</p> <p>Use with: Radio Set AN/GRC-26A, AN/MRC-32.</p> <p>Installation: As part of fixed or mobile installation.</p>	<p>Frequency range: 0.5 to 30.5 MC.</p> <p>Receiver type: Single, double, or triple conversion superheterodyne.</p> <p>Types of reception: Voice, CW, or frequency shift.</p> <p>Sensitivity: 5.0 microvolt input required to produce 500 MW power out.</p> <p>IF frequency: 500 KC.</p> <p>Power requirements: 85 watts at 115 or 230 volts; 45 to 70 CPS.</p>							
SIMILAR EQUIPMENTS	PHYSICAL CHARACTERISTICS							
<p>Radio Receiver R-390</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 30%;">Unit</th> <th style="width: 35%;">Overall Weight (in lbs)</th> <th style="width: 35%;">Cubic Feet</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">AN/URR-23A</td> <td style="text-align: center;">121 (in two packages)</td> <td style="text-align: center;">7 (crated)</td> </tr> </tbody> </table>	Unit	Overall Weight (in lbs)	Cubic Feet	AN/URR-23A	121 (in two packages)	7 (crated)	
Unit	Overall Weight (in lbs)	Cubic Feet						
AN/URR-23A	121 (in two packages)	7 (crated)						

RADIO RECEIVER AN/URR-23A

Revised  
April 1962

Radio Receiver AN/URR-23A

PUBLICATIONS

SL-3-001298, Receiving Set Radio  
AN/URR-23A, Sep 60.  
SL-4-001298, Receiving Set AN/URR-23A,  
Jul 60.  
SL-4-001298, Receiving Set AN/URR-23A,  
Jan 62, Ch 1.

SL-4-02437A, Receiver Radio R-388/URR,  
Sep 60.  
SL-4-02437A, Receiver Radio R-388/URR,  
Feb 62, Ch 1.  
TM 11-854, Radio Receiver R-388/URR,  
Apr 52.

RADIO RECEIVER AN/URR-23A

Radio Receiver AN/URR-23A

October 1961

MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Alignment and adjustment of R-388/URR	Signal generator: 500 KC to 30 MC 400 CPS modulation	AN/URM-25( )	TS-497( )/URR	TM 11-854, Chapter 5, Section III, paragraphs 80 through 94.
	VTVM: 0 to 250 volts	TS-505/U	ME-25( )/U	
Final	VTVM: 1.6 MV to 125 MV	Ballantine 300	ME-6C/U	TM 11-854, Chapter 5, Section IV, paragraphs 95 through 102.
	Output meter: 0.5 W to 2.5 W	TS-585C/U	ME-2/U	
Organizational maintenance	Signal generator: 4.9 MC modulated 30% by 400 CPS	AN/URM-25( )	TS-497( )/URR	TM 11-854, Chapter 3, paragraphs 25 through 36.
	No special tools or equipment required			

RADIO RECEIVER AN/URR-23A

October 1961

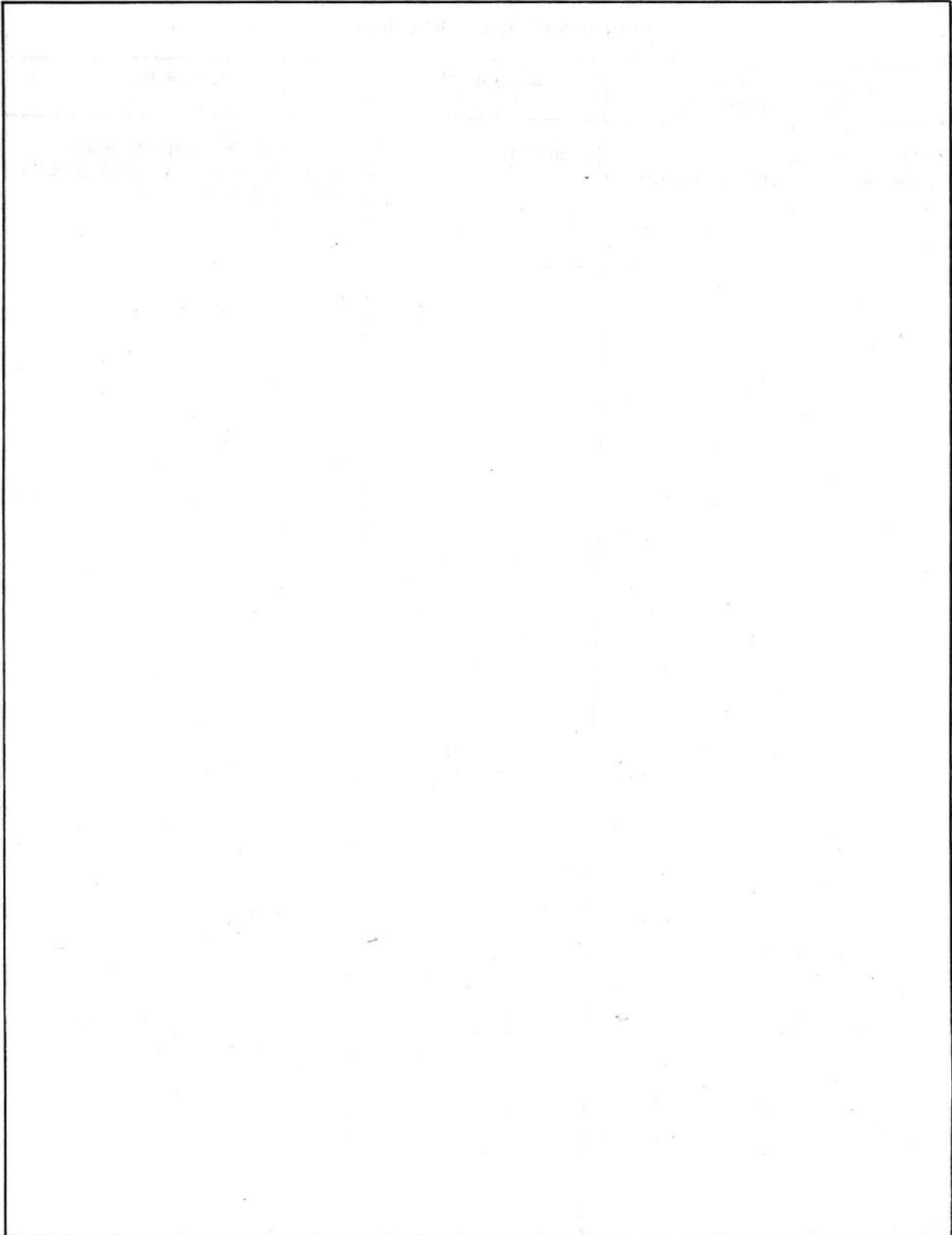
Radio Receiver AN/URR-23A

EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
MCO 2005.79 Sup. 2: Replacement of C005 and C006	R-388/URR	C005 and C006 replaced with capacitor having a working voltage of 300 VDC.

RADIO RECEIVER AN/URR-23A

Radio Receiver AN/URR-23A

October 1961



# RADIO RECEIVER R-390/URR

October 1961

Radio Receiver R-390/URR

GENERAL DATA	MAJOR UNITS
<p>F. S. N: 5820-503-1242                      ID Number: 01450A                      Function: Reception of CW, MCW, voice and frequency-shift keyed radio signals.                       Manufacturer: Motorola Inc.                      Chicago, Ill.                      Contracts: DA-36-039-SC-77738                      MIPR R58-2366-USMC-ELCT                      Approximate price: \$1,800.00                      Recommended operational checkout interval: <u>WEEKLY</u></p>	<p>(1) Radio Receiver R-390/URR                      (1) Power Cable Assembly CX-1358/U</p>

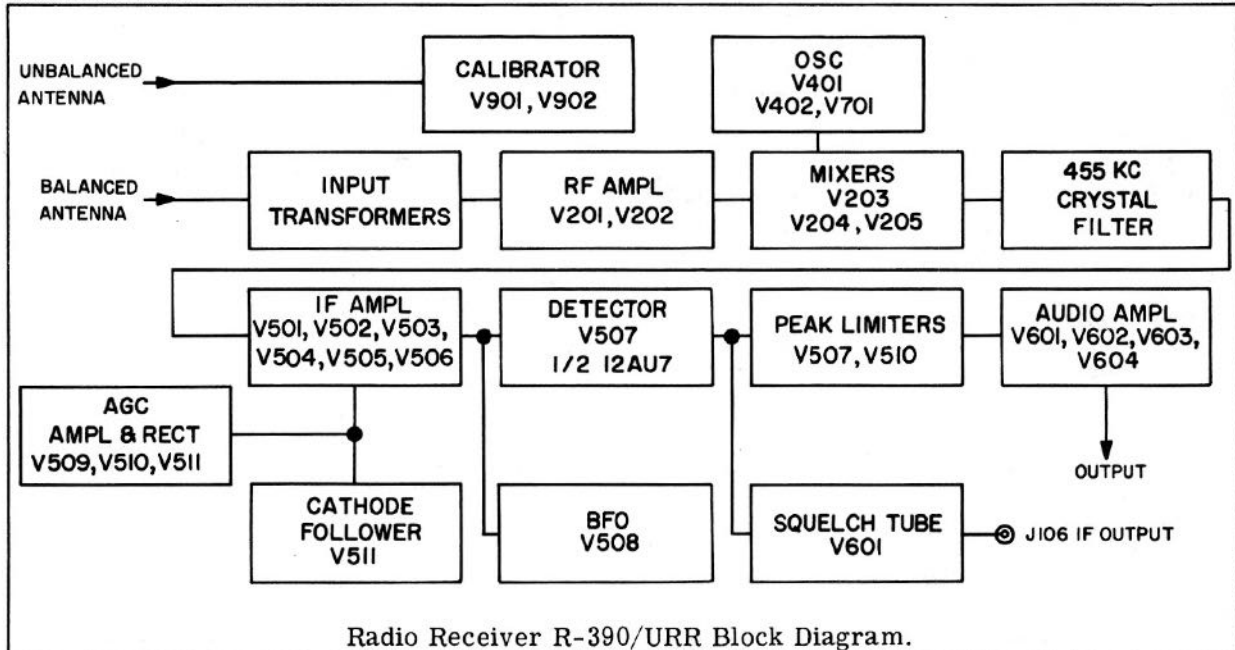


Radio Receiver R-390/URR.

# RADIO RECEIVER R-390/URR

Radio Receiver R-390/URR

October 1961



Radio Receiver R-390/URR Block Diagram.

OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS		
<p>Use: Radio Receiver R-390/URR is a high-performance, exceptionally stable, general-purpose receiver for use in both fixed and mobile service. The receiver provides reception of continuous wave (CW), modulated continuous wave (MCW), voice, and frequency-shift keyed signals within a frequency range of .5 to 32 megacycles (MC).</p>	<p>Frequency range: .5 to 32 MC (in 32 steps).</p> <p>Type modulation: AM.</p> <p>Type of signal: CW, MCW, voice, composite transmissions frequency-shift keying.</p> <p>Power output: 500 MW into an unbalanced 600-ohm line, 10 MW into a balanced 600-ohm line, 5 MW headphones.</p> <p>Power requirements: 115/230 volts AC <math>\pm 10\%</math>, 48-62 CPS, 270 watts total.</p>		
SIMILAR EQUIPMENTS	PHYSICAL CHARACTERISTICS		
<p>AN/URR-23A.</p>	Unit	Overall Weight (in lbs)	Cubic Feet
	R-390/URR	144	6 (crated)

RADIO RECEIVER R-390/URR

Revised  
April 1962

Radio Receiver R-390/URR

PUBLICATIONS

TM 11-856, Radio Receiver R-390/URR,  
Ch 1, Ch 2 and Ch 3 Jan 55.  
TM 11-5820-357-10, Radio Receiver  
R-390/URR, Dec 60.  
MI-5820-25/3 Fuse Relocation Recvr R-389,  
390/URR, Dec 61.

TM 11-5820-357-20, Receiver Radio  
R-390/URR, Mar 61.  
TM 11-5820-357-20P, Receiver Radio  
R-390/URR, Nov 59.  
TM 11-5820-357-35P, Receiver Radio  
R-390/URR, Nov 59.



RADIO RECEIVER R-390/URR

Radio Receiver R-390/URR

October 1961

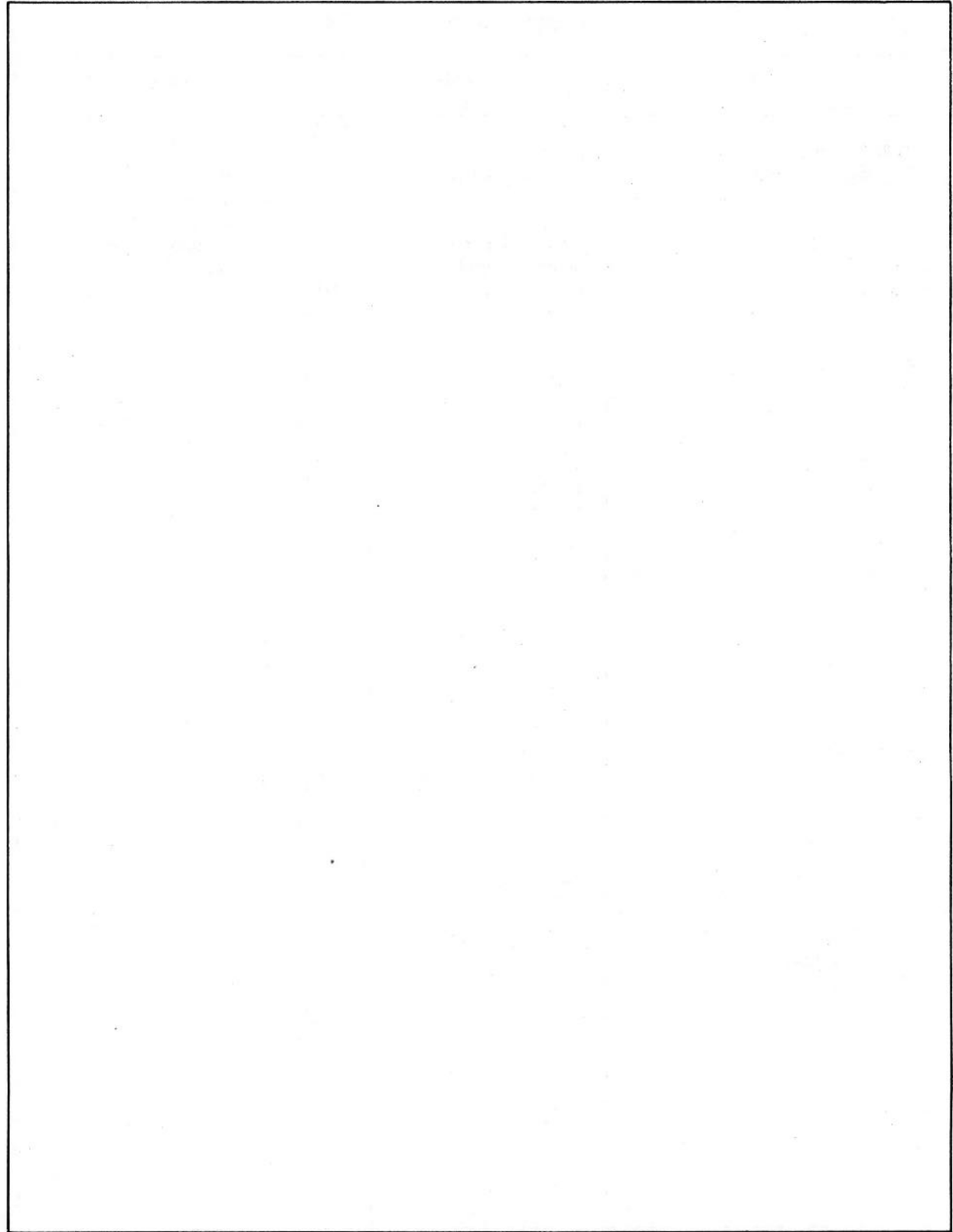
MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Alignment and adjustments	Signal generator: .455 to 32 MC	AN/URM-25( )	LP-5*	TM 11-856, paragraphs 108 to 120.
	Output meter: 2-10 VDC and 1-10 VAC	TS-505/U	ME-25( )/U	
	Volt-ohmmeter	TS-352( )/U	AN/PSM-4A	
	VTVM: 0.01 to 0.1 VAC	ME-6( )/U	ME-30/U	
	Variable autotransformer	CN-16/U	NT302778	
Final testing	Resistors: noninductive 1/4 watt	Two 68-ohm one 75-ohm one 95-ohm		TM 11-856, paragraphs 121 to 127.
	VTVM: .5 to 180 VDC .8 to 2.5 VAC	TS-505/U	ME-25( )/U	
	Signal generator: 100 to 10,000 CPS	TS-382( )/U	LAJ*	
Organizational maintenance	Signal generator: 0.5 to 32 MC	AN/URM-25( )	LP-5*	
	No special tools or equipment required			
	* Non T/A item			

EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
MCO 2005. 59 Sup 2: Elimination of radiation.	R-390/URR and R-390A/URR	Removal of ground connection to Pin 2 of V603 and the addition of a short piece of wire from Pin 2 to Pin 7 of V603.
MI-5820-35/3 Prevention of damage to resistors.	PP-621/URR Power Supply.	A high voltage fuse is HV-3/8A (F102) is placed in the negative (B-) lead of the high voltage circuit.

RADIO RECEIVER R-390/URR

Radio Receiver R-390/URR

October 1961

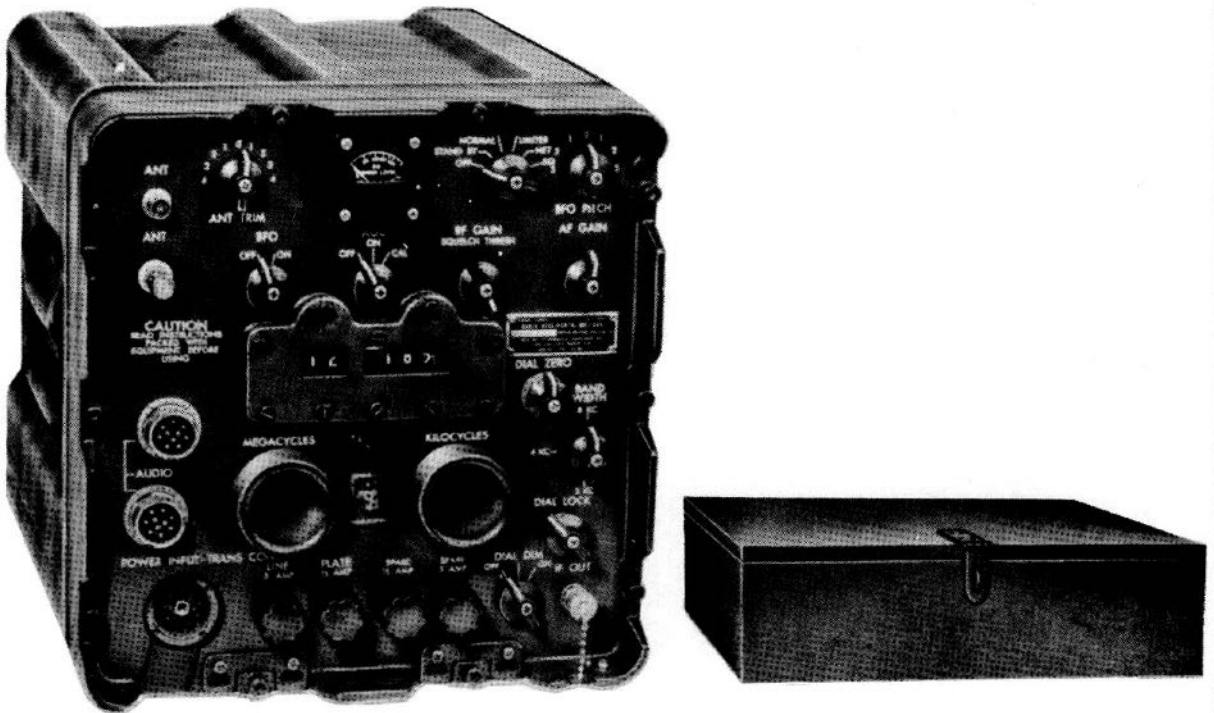


# RADIO RECEIVER R-392/URR

October 1961

Radio Receiver R-392/URR

GENERAL DATA	MAJOR UNITS
<p>F. S. N: 5820-503-1250                      ID Number: 01422A                      Function: Reception of voice or radiotelegraph signals.                      Manufacturer: Collins Radio Co. Cedar Rapids, Iowa                      Contracts: USASSA 11678-PH-52                      R58-2552-USMC-ELCT                      Approximate price: \$1,500.00                      Recommended operational checkout interval: <u>WEEKLY</u></p>	<p>(1) Radio Receiver R-392/URR                      (1) Electron Tube Case CY-1298/URR</p>



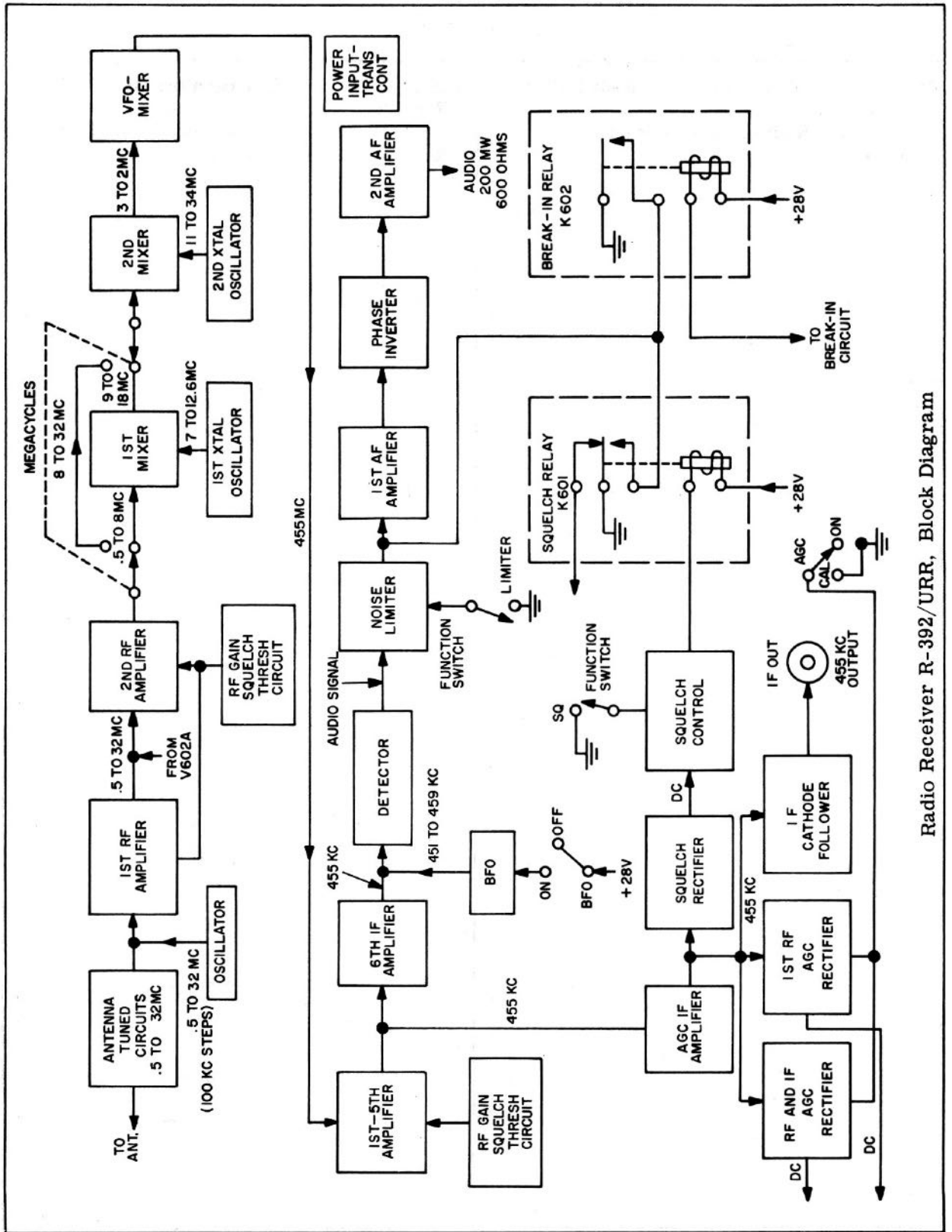
Radio Receiver R-392/URR.

# RADIO RECEIVER R-392/URR

Radio Receiver R-392/URR

October 1961

OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS		
<p>Use: Radio Receiver R-392/URR is designed for vehicular use and is operated from a DC power source such as a vehicle electrical system. The receiver provides reception of voice or radiotelegraph signals. It may be used alone as a receiver or as a part of a two-way radio set.</p> <p>Used with:</p> <p>Installation: Mobile.</p>	<p>Frequency range: 500 KC to 32 MC in 32 bands.</p> <p>Types of signals received: CW, MCW, voice (AM), and frequency-shift radio tele-typewriter.</p> <p>Method of calibration: Built-in crystal calibrator.</p> <p>Calibration points: Every 100 KC.</p> <p>Nominal input voltage: 28VDC; will operate on an input of 25 to 30 volts.</p>		
SIMILAR EQUIPMENTS	PHYSICAL CHARACTERISTICS		
	Unit	Overall Weight (in lbs)	Cubic Feet
	R-392/URR	60	10 (crated)



Radio Receiver R-392/URR, Block Diagram

RADIO RECEIVER R-392/URR

Radio Receiver R-392/URR

October 1961

PUBLICATIONS

RPL 01422A, Radio Receiver R-392/URR,  
Sep 59.

TM 11-858, Radio Receiver R-392/URR,  
Apr 54.

TM 11-5820-334-10, Operators Man Radio  
Receiver R-392/URR, Nov 60.

TM 11-5820-334-20, Operators Man Radio  
Receiver R-392/URR, Dec 60.

RADIO RECEIVER R-392/URR

October 1961

Radio Receiver R-392/URR

MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Organizational maintenance	No special tools or equipment required			TM 11-858, paragraphs 41 through 49
Alignment and final testing	Signal generator: 400 KC to 32 MC	AN/URM-25()	LP-5*	TM 11-858, paragraphs 112 through 128.
	VTVM: 2 to 28 VDC 1 to 10 VAC	TS-505/U	ME-25/U	
	Frequency meter: 400 KC to 32 MC	SCR-211	AN/URM-32	
	Audio oscillator: 30 to 10,000 CPS	TS-382()/U	LO-()	
	Spectrum analyzer	TS-723/U		
	* Non T/A item			



RADIO RECEIVER R-392/URR

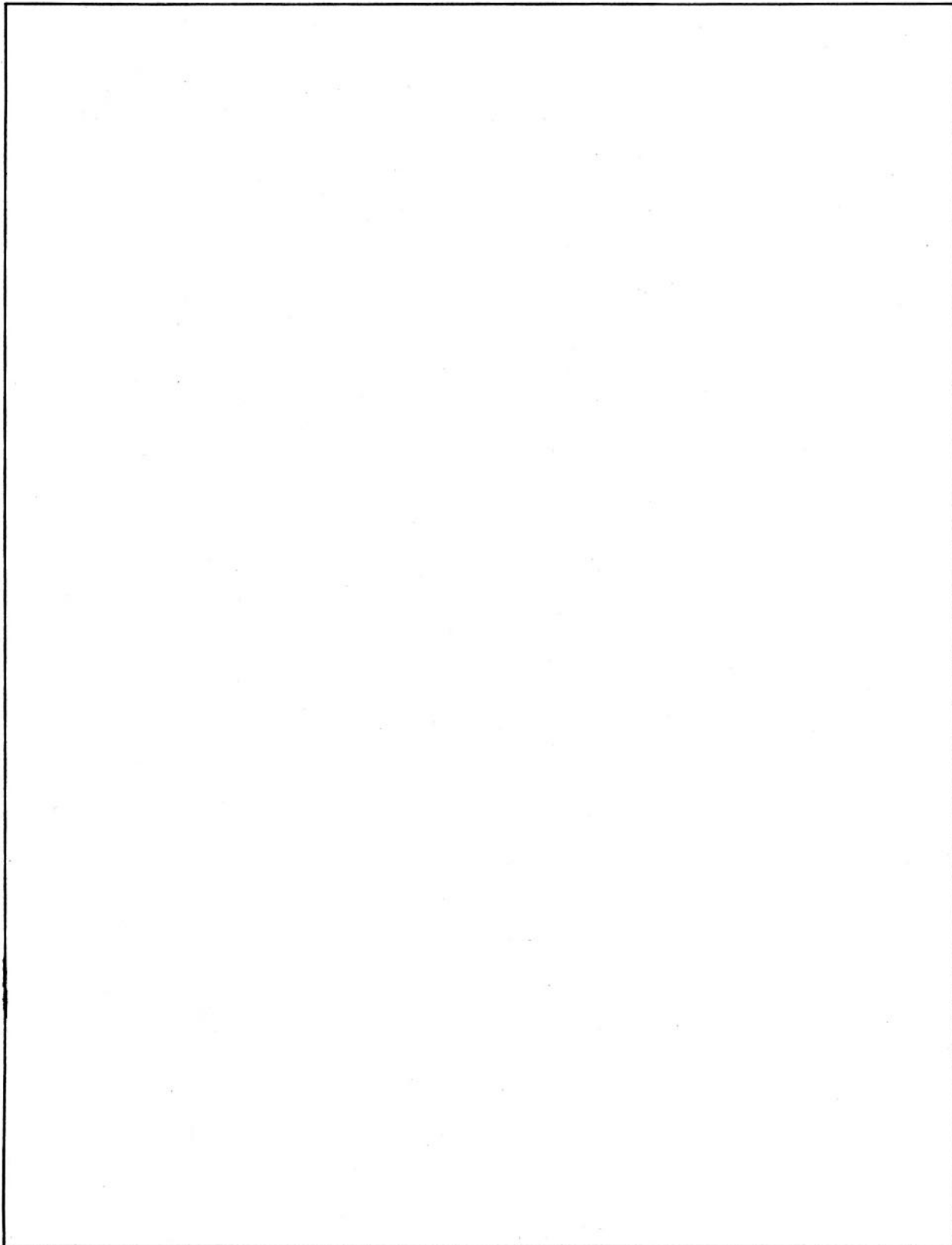
Radio Receiver R-392/URR

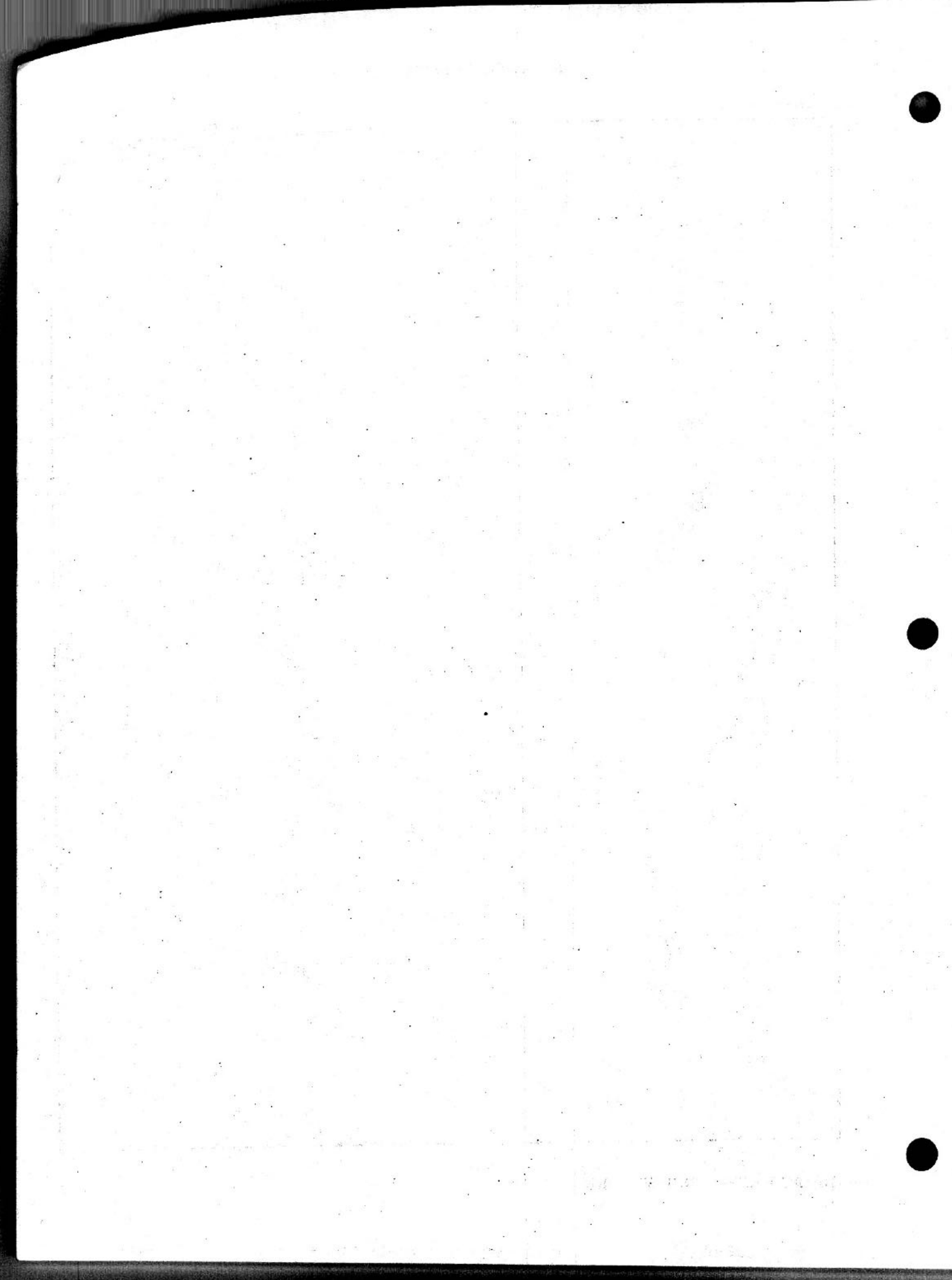
October 1961

EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
		No modifications authorized.

October 1961

Radio Receiver R-392/URR



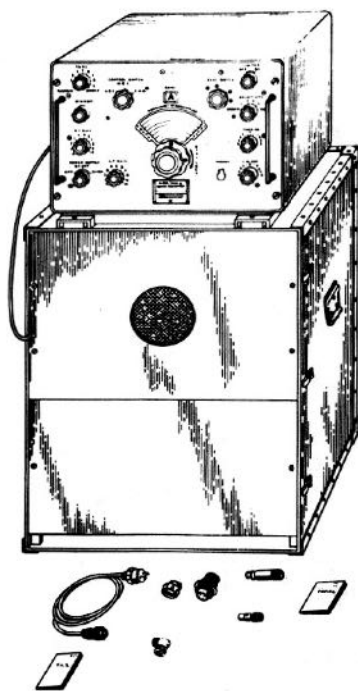


# RADIO RECEIVING SET AN/TRR-5

October 1961

Radio Receiving Set AN/TRR-5

GENERAL DATA	MAJOR UNITS
<p>F. S. N: 5820-665-3411                      ID Number: 00109A                      Function: Radio receiving equipment</p> <p>Manufacturer: Espey Mfg. Co.,                      New York, N. Y.</p> <p>Contracts: NObsr 43229</p> <p>Approximate price: \$360.00                      Recommended operational checkout interval. <u>WEEKLY</u></p>	<ul style="list-style-type: none"> <li>(1) Case CY-851/TRR-5</li> <li>(1) Receiver R-366/TRR-5</li> <li>(1) Speaker Cable W-101</li> <li>(1) Power Cable W-102</li> <li>(1) Loudspeaker LS-171/U</li> <li>(1) Adapter E-301</li> <li>(1) Connector J-301</li> <li>(1) Connector J-302</li> <li>(1) Connector J-303</li> </ul>

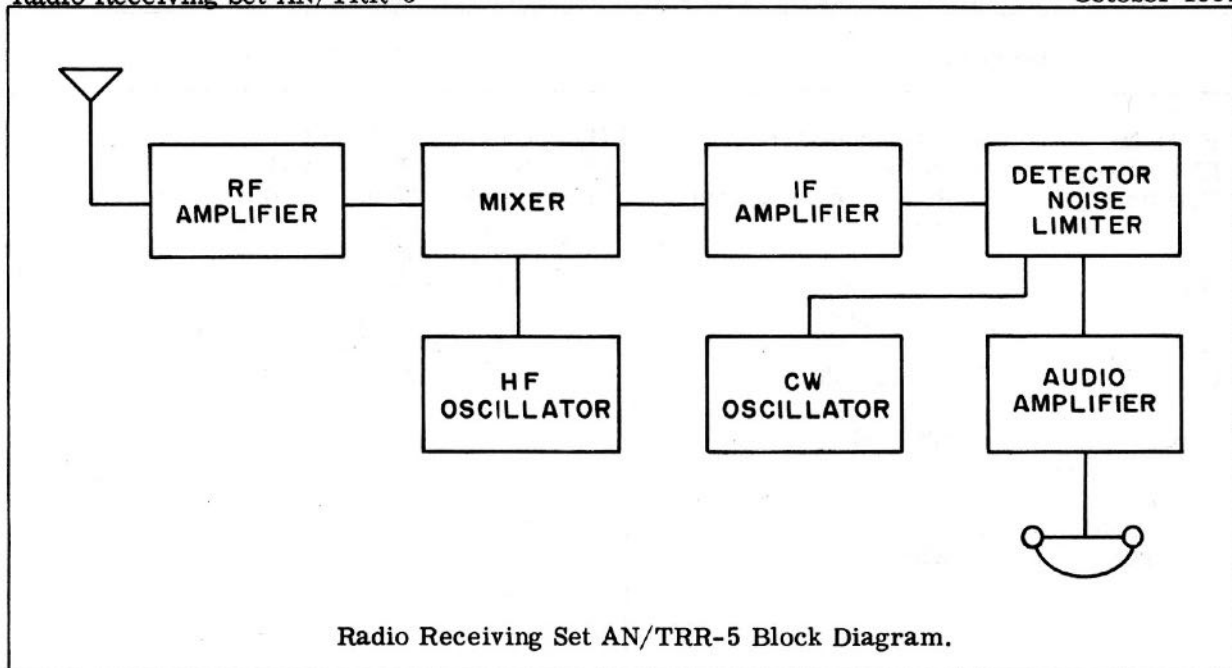


Radio Receiving Set AN/TRR-5.

# RADIO RECEIVING SET AN/TRR-5

Radio Receiving Set AN/TRR-5

October 1961



Radio Receiving Set AN/TRR-5 Block Diagram.

OPERATIONAL CHARACTERISTICS			TECHNICAL CHARACTERISTICS	
<p>Use: Radio Receiving Set AN/TRR-5 is a radio receiving equipment designed for use by the Marine Corps aboard all types of naval vessels or at shore stations. It is a locally controlled, 14-tube superheterodyne with a frequency range of 540 to 30,000 kilocycles covered in five bands. It can be used on either CW (continuous wave) or MCW (continuous waves modulated with tone or voice) signals.</p> <p>Used with:</p> <p>Installation: Transportable</p>			<p>Frequency range: 0.54 to 30 MC without hiatus.</p> <p>Intermediate frequency: 455 KC.</p> <p>Image rejection: 5 to 80 decibels (db) 65 db.</p> <p>Signal-to-noise ratio: 10 db MCW, 20 db CW</p> <p>Sensitivity: 15 uv MCW, 10 uv CW</p> <p>Scanning channel sensitivity: 10 uv.</p> <p>Audio channel output: 6 milliwatts with respect to a 600-ohm load at the line output terminals of the receiver.</p> <p>Scanning channel output: 100 uv with respect to a 70-ohm load at the scanning output jack.</p> <p>Modulation frequency: 1000 CPS.</p> <p>AC Power supply requirements.</p> <p>Voltage: 115 V ± 10%.</p> <p>Phase: Single.</p> <p>Frequency: 60 CPS.</p> <p>Power consumption: 112 watts.</p>	
SIMILAR EQUIPMENTS				
Radio Receivers RBL ( ).				
PHYSICAL CHARACTERISTICS				
Unit	Overall Weight (in lbs)	Cubic Feet		
AN/TRR-5	83	3.1 (crated)		

RADIO RECEIVING SET AN/TRR-5

October 1961

Radio Receiving Set AN/TRR-5

PUBLICATIONS

D/L VOL II, Radio Receiving Set AN/TRR-5,  
Jun 53.  
NAVSHIPS 91454A, IB Radio Receiving Set  
AN/TRR-5, May 51.

SIG M8, Radio Receiving Set AN/TRR-5,  
Oct 52.  
SIG M8 SUPP, Radio Receiving Set  
AN/TRR-5, May 56.

RADIO RECEIVING SET AN/TRR-5

Radio Receiving Set AN/TRR-5

October 1961

MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Operator's maintenance	No special tools or equipment required.			NAVSHIPS 91454, paragraphs 5-1 and 5-2.
Alignment procedures	Signal generator: 455 KC to 30 MC  Output meter: 6 mw	AN/URM-25  ME-2/U	*LP-5  *TS-585/U	NAVSHIPS 91454, paragraphs 6a through 6e5.
	*Non T/A item			

RADIO RECEIVING SET AN/TRR-5

October 1961

Radio Receiving Set AN/TRR-5

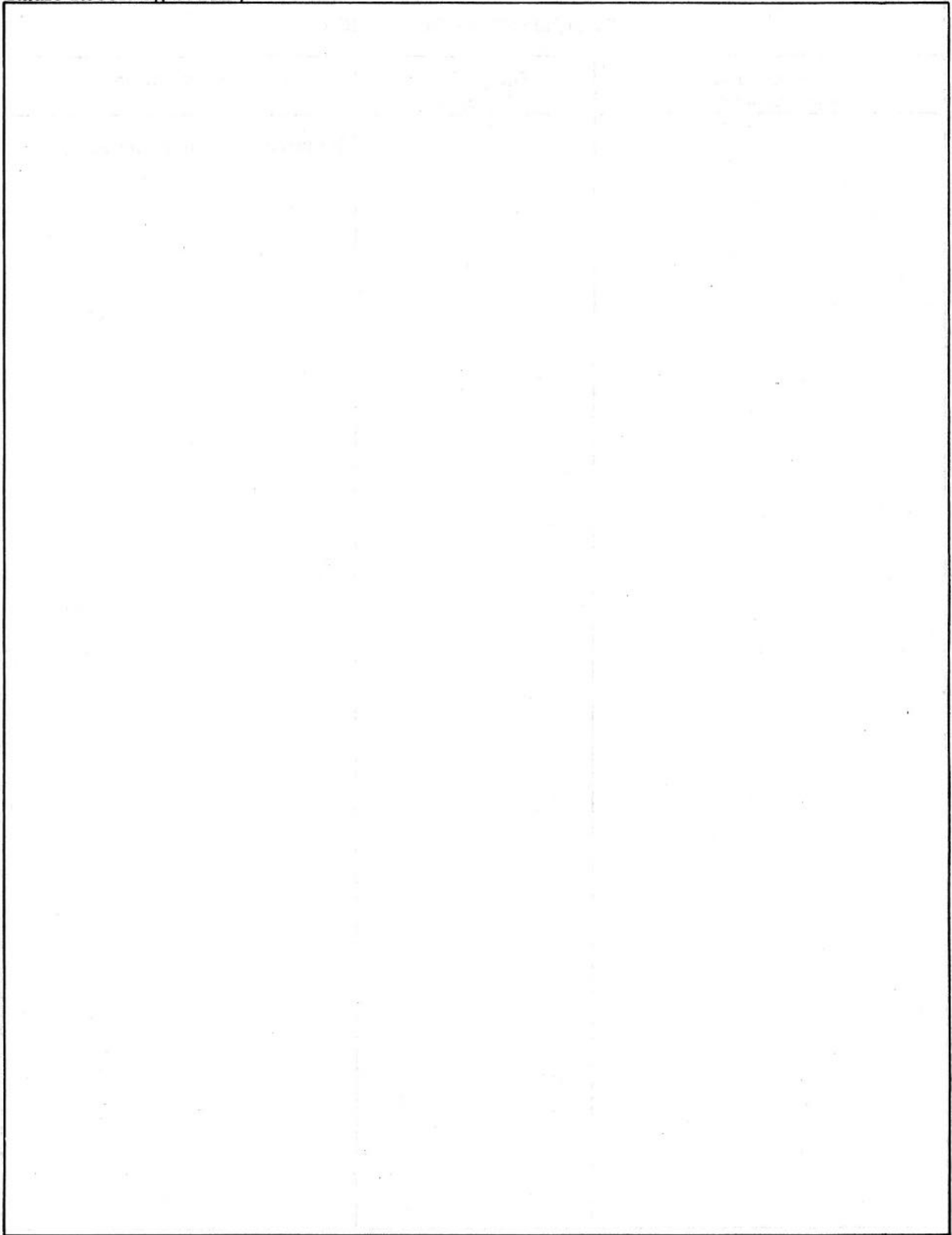
EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
		No modifications authorized.



RADIO RECEIVING SET AN/TRR-5

Radio Receiving Set AN/TRR-5

October 1961

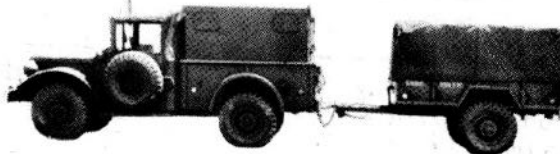
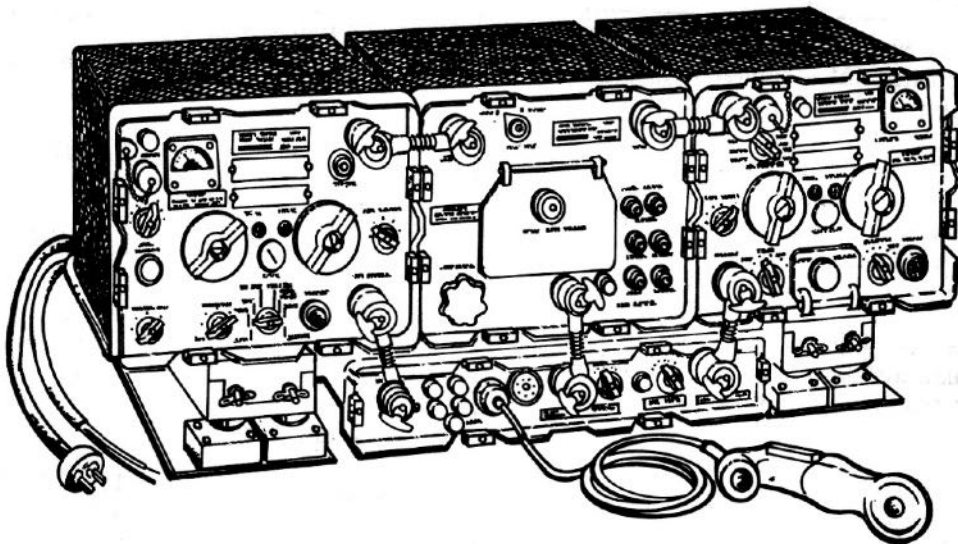


# RADIO REPEATER SET AN/MRC-63

October 1961

Radio Repeater Set AN/MRC-63

GENERAL DATA	MAJOR UNITS
<p>F. S. N: 5820-519-5525                      ID Number: 00073A                      Function: Relay of multichannel voice, telegraph, teletype and/or facsimile.</p> <p>Manufacturer: MCSC Albany, Ga.</p> <p>Contracts: Project 56734, 54726</p> <p>Approximate price: \$20,000.00                      Recommended operational checkout interval: <u>DAILY</u></p>	<ul style="list-style-type: none"> <li>(3) Radio Set AN/GRC-10</li> <li>(2) Antenna Group OA-249/GRC-10</li> <li>(2) Loudspeakers LS-166/U</li> <li>(1) Multimeter TS-352B/U</li> <li>(1) Trailer-mounted Power Plant PU-357/MRC. (Includes two Power Units PE-75.)</li> <li>(1) Electrical Equipment Shelter S-110/U</li> <li>(1) Cargo Truck 3/4-ton M-37 w/winch</li> </ul>

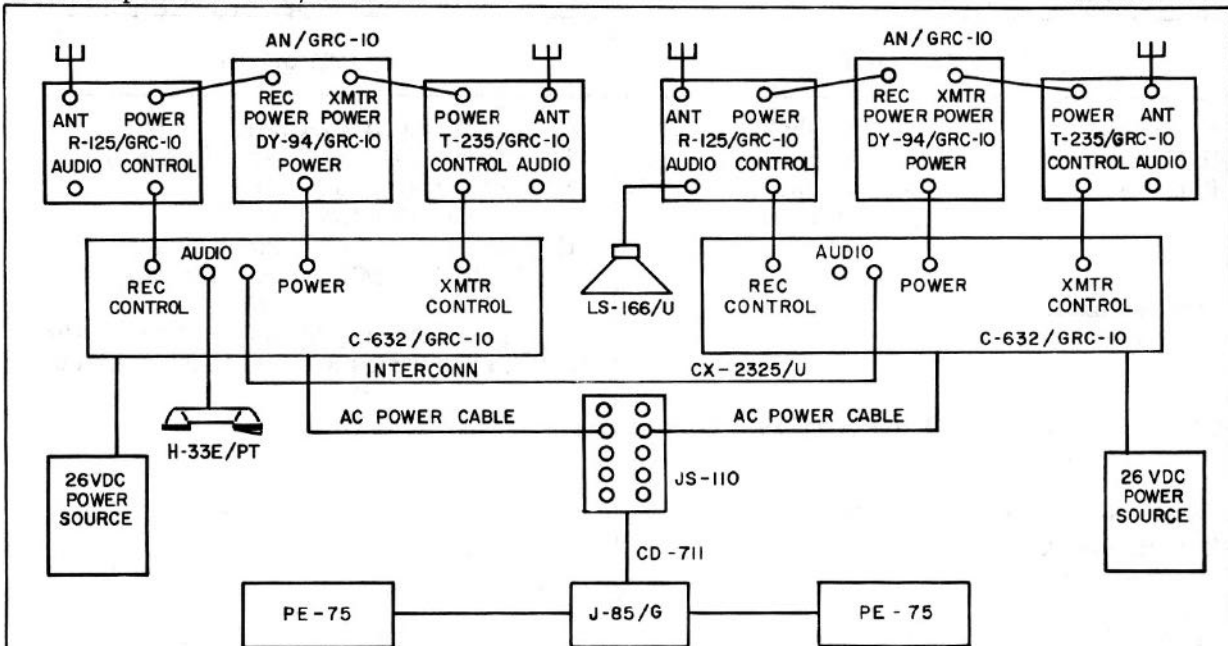


Radio Repeater Set AN/MRC-63.

# RADIO REPEATER SET AN/MRC-63

Radio Repeater Set AN/MRC-63

October 1961



Radio Repeater Set AN/MRC-63 Cording Diagram

OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS							
<p><b>Use:</b> A radio repeater facility that receives and retransmits multichannel voice, telegraph, teletype and/or facsimile.</p> <p><b>Used with:</b> Radio Terminal Set AN/MRC-62. AN/TCC-3 may be used at relay station to permit channel drop outs. Control Group AN/GRA-6 will operate the Radio Set AN/GRC-10.</p> <p><b>Installation:</b> Ground, fixed. Mounted in 3/4-ton truck and trailer. Shelter is detachable to permit helicopter lift.</p>	<p><b>Frequencies:</b> 54 to 70.9 MC</p> <p><b>Types of signal:</b> Voice, multi-channel telephone, telegraph, facsimile</p> <p><b>Modulation:</b> FM</p> <p><b>Frequency deviation:</b> ± 40 KC</p> <p><b>Power output:</b>                      High: 40 watts                      Low: 10 watts</p> <p><b>Receiver type:</b> Double conversion</p> <p><b>Intermediate frequency:</b>                      Variable: 15.15 to 16.05 MC                      Fixed: 4.3 MC</p>							
SIMILAR EQUIPMENTS	PHYSICAL CHARACTERISTICS							
<p>Radio Set AN/GRC-10. Radio Relay Set AN/TRC-4 is similar to the AN/MRC-63 in that it provides the same type of communication facilities in the 70 to 99.9 MC range.</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Unit</th> <th style="text-align: center;">Overall Weight (in lbs)</th> <th style="text-align: center;">Cubic Feet</th> </tr> </thead> <tbody> <tr> <td style="text-align: left;">AN/MRC-63</td> <td style="text-align: center;">9700 (mounted in trailer and truck)</td> <td style="text-align: center;">1035</td> </tr> </tbody> </table>	Unit	Overall Weight (in lbs)	Cubic Feet	AN/MRC-63	9700 (mounted in trailer and truck)	1035	
Unit	Overall Weight (in lbs)	Cubic Feet						
AN/MRC-63	9700 (mounted in trailer and truck)	1035						

RADIO REPEATER SET AN/MRC-63

Revised  
April 1962

Radio Repeater Set AN/MRC-63

PUBLICATIONS

<p>D/L T/A NO 6420, Truck Cargo, Feb 54. D/L VOL II, Radio Set AN/MRC-63, Sep 57. LO 9-8030, Lubrication Order, Jul 56. LO 11-900, Power Units PE-75 Series, Feb 45. NAVMC ELECT 2009, Shelter Elect Equip S-110/U. SIG M8, Generator Set PU-357/MRC, Aug 57. SIG M8, Repeater Set Radio AN/MRC-63, Oct 57. SIG M8, Shelter Elect Equip S-110/U, Aug 55. SIG M8 SUPP, Shelter Elect Equip S-110/U, Feb 57. SIG 7-8, Antenna Group OA-249/GRC-10, Sep 57. SIG 7-8, Radio Set AN/GRC-10, Feb 58. SL-3-00011C, Multimeter TS-352B/U Jun 61. SL-3-00669A, Tool Kit Trk 3 Ech Spcl Bas 1 M37 M43, Feb 62. SL-3-00670A, Tool Kit Trk 4 Ech Spcl Bas 1 M37 M43, Feb 62. SL-3-00684A, Tool Kit Org Maint 2 Ech Set B Basic, Apr 60. SNL G-249 ORD 8 V10, Winterization Equip- ment M37, Feb 55. SNL G-741 ORD 8, Chassis Truck 3/4 Ton 4x4, Jan 57. SNL G-741 ORD 9, Truck Cargo M37 M42 M43, Jan 54. TB ORD 245, Std/Proced Dep O/Haul Ord Tank Auto, Aug 61. TB ORD 392, Int Lub New Rebuilt Gas Eng B Use, Sep 60. TB ORD 460, Liq Cool Eng-Equip Clean Drain Hole, Jul 52. TB ORD 485, M Models Servicing Data Plate Corr, Jan 53 TB ORD 524, Installed Metal Tanks Clean- Preserv, Jun 53. TB ORD 616, Tact-Comm Mover-Trlrs Interveh Conn, Aug 56. TB 9-248, Rubber Preserv Descript- Application, Sep 58. TB 9-265, Discontinuance Red Paint Mk Lub Pts, Dec 58. TB 9-282, Combat Veh Protect Insul Comm Equip, Sep 59. TB 9-296/64, Multimeter TS-352, A, B/U, Feb 61.</p>	<p>TB 9-300-1/1, Combat Veh Insp Care Pres Our Stor, May 60. TB 9-300-1/1, Combat Veh Insp Care Pres Our Stor, Nov 61, Ch 1. TB 9-343, Ord Veh Install-Use Overhaul Plates, Apr 60. TB 9-1859-2, Time Schedule Guide, Jan 53. TB 9-1859-2, Time Schedule Guide, Ch 1. TB 9-1870-1/1, Care Pneumatic Tires and Inner Tube, Jul 56. TB 9-1870-1/2, Penum Tires Tubes Flaps Inst Unserv, Feb 57. TB 9-2300-228-20, Trouble Shoot F/Ins Cluster Wiring, Jul 60. TB 9-2855-5, Install Personnel Heat Truck M37, Jul 53. TB 9-2855-6, Installation of Power Plant Heater, Sep 53. TB 9-2855-45, Installation of Hot Water Heater Kt, Dec 56. TM 9-207, Oper Maint Ordmatl in Extreme Cold, Sep 59. TM 9-236, Military Tactical Vehicles, Sep 60. TM 9-1825B, Electrical Equipment Auto- Lite, Nov 52. TM 9-1826A, Carburetors, Dec 52. TM 9-1827C, Brake-Misc Equip Wagner- Lockhead, Jan 53. TM 9-1828A, Fuel Pumps, Dec 52. TM 9-1828A, Fuel Pumps, Ch 1. TM 9-1829A, Ord Maint Speedometers Tachometers, Apr 44. TM 9-1840A, Ord Maint Engine Clutch M37 M43, Jun 52. TM 9-1870-1, Care and Maint of Pneumatic Tires, Feb 55. TM 9-1870-1, Care and Maint of Pneumatic Tires, Ch 1. TM 9-2320-212-20P, Orgn Repair Pts Spcl Tools 3/4T 4X4, Feb 60. TM 9-2853, Prep Ord Mtl F/Deep Water Fording, Jul 45. TM 9-2853, Prep Ord Mtl F/Deep Water Fording, Ch 1 TM 9-6140-200-15, Oper-Org F-D Maint Stor Bat Lead Ac, Jul 58. TM 9-8000, Principles of Automotive Vehicles, Jan 56. TM 9-8030, Operation-Organizational Maint, May 55.</p>
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RADIO REPEATER SET AN/MRC-63

Revised  
April 1962

Radio Repeater Set AN/MRC-63

PUBLICATIONS

TM 9-8030, Operation-Organizational Maint, Mar 56, Ch 1.	TM 11-900, Power Unit PE-75, Sep 45.
TM 9-8030, Operation-Organizational Maint, Dec 57, Ch 2.	TM 11-5527, Multimeters TS-352-A-B/U, Oct 56.
TM 9-8030, Operation-Organizational Maint, Aug 58, Ch 3.	TM 11-5527, Multimeters TS-352-A-B/U, Feb 57, Ch 1.
TM 9-8030, Operation-Organizational Maint, Ch 4.	TM 11-5527, Multimeters TS-352-A-B/U, Dec 57, Ch 2.
TM 9-8030, Operation-Organizational Maint, Ch 5.	TM 11-5965-202-12P, Handsets H-33/PT Series, Apr 59.
TM 9-8031-2, Power Train Body and Frame, May 53.	TM 11-5965-202-35, Handsets H-33/PT Series, May 59.
TM 9-8031-2, Power Train Body and Frame, Feb 54, Ch 1.	TM 11-5965-202-35P, Handsets H-33E, F/PT, Jan 61.
TM 9-8031-2, Power Train Body and Frame, Jun 56, Ch 2.	TM 11-6115-206-10P, Power Units PE-75 Series, Jul 59.
TM 9-8662, Fuel Burn Heat F/Winter Equipment, Mar 54.	TM 11-6115-206-20P, Power Units PE-75 Series, Jul 59.
TM 11-614, Radio Set AN/GRC-10, 39, 40, Nov 54.	TM 11-6115-206-35P, Power Units PE-75 Series, Jul 59.
TM 11-614, Radio Set AN/GRC-10, 39, 40, Feb 56, Ch 1.	TM 21-300, Driver Selection and Training, Dec 58.
TM 11-614, Radio Set AN/GRC-10, 39, 40, Ch 2.	TM 21-305, Manual for Wheeled Vehicles, Dec 56.
TM 11-614, Radio Set AN/GRC-10, 39, 40, Jun 57, Ch 3.	TM 21-305, Manual for Wheeled Vehicles, Ch 1.
TM 11-614, Radio Set AN/GRC-10, 39, 40, Jul 57, Ch 4.	TM 11240-1, USMC TM Tactical Mt Veh Prev Maint, Feb 61.

RADIO REPEATER SET AN/MRC-63

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Radio Repeater Set AN/MRC-63

MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Organizational maintenance	Multimeter	TS-297/U	TS-352/U AN/PSM-4A	TM 11-614, paragraphs 99 through 124.
Alignment of Radio Receiver R-125/GRC-10	Signal generator: 54 to 70.9 MC	AN/URM-48	TS-497/URR	TM 11-614, paragraphs 196 through 198.
	VTVM: 1 to 98 VDC	TS-505/V	ME-25 ( )/U	
	Frequency meter: 19.45 to 54.85 MC	SCR-211 ( )	AN/URM-32	
	Signal generator: 4.3 to 16.05 MC	TS-497/URR	AN/URM-25 ( )	
	Output meter: 0 dbm to -10.5 dbm	TS-585/U	ME-30C/U	
Alignment of Radio Transmitter T-235/GRC-10	Signal generator: 3.2 to 16.5 MC	TS-497/URR	AN/URM-25 ( )	TM 11-614, paragraphs 199 through 201.
	Frequency meter: 3.2 to 70.9 MC	SCR-211 ( ) and TS-174/U	AN/URM-32	
	VTVM: 1 to 240 VDC	TS-505/U	ME-25 ( )/U	
	Wattmeter: 50 watts at 54 to 70.9 MC	TS-118/AP	AN/URM-43	
	Panoramic indicator 8 and 9 KC deviation	IP-173/U	Radio Receiver R-125/GRC-10	
	Audio oscillator	TS-382/U	LO ( )	
	Final testing of AN/GRC-10	Signal generator: 54 MC	AN/URM-48	
Audio oscillator: 250 to 20,000 CPS		TS-382A/U	LO ( )	

RADIO REPEATER SET AN/MRC-63

Radio Repeater Set AN/MRC-63

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MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Final testing of AN/GRC-10	Wattmeter: 50 watts at 54 to 70.9 MC	TS-118/AP	AN/URM-43	
	Spectrum analyzer**	TS-723/U	HP 330B*	
	Voltmeter: 26 to 550 VDC	TS-352 ( )/U	AN/PSM-4	
	VTVM: 0.06 to 0.45 VAC	ME-6 ( )/U	ME-30C/U	
	*Non T/A item **Normally fourth or fifth echelon			

RADIO REPEATER SET AN/MRC-63

Revised  
April 1962

Radio Repeater Set AN/MRC-63

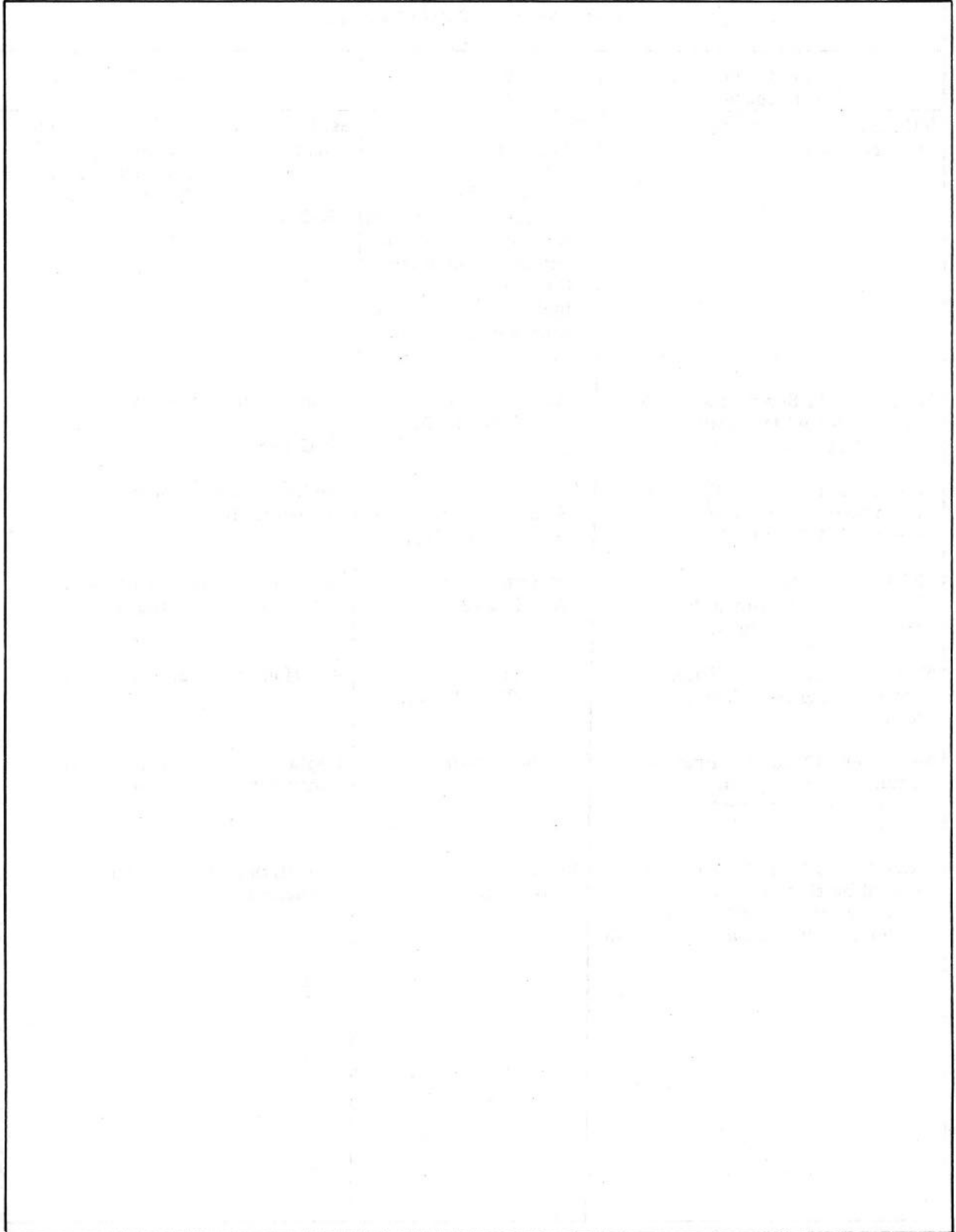
EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
MCO 2005.11 Sup 2: To improve discriminator.	Transmitter T-235/GRC-10, serial numbers 1 through 229 manu- factured under Order Number 92 Phila 52, and serial number 1 through 75, manu- factured under Order Number 1998 Phila 51.	Seal-type discriminator replaces original T204. Also replace- ment of meter circuit compo- nents R-249, R-251, R-252, R-287, and C-243.
MCO 2005.11 Sup 5: Instructions for simplified transmitter alignment.	Transmitter T-235/GRC-10.	Elimination of the need for a signal generator in the 50-70- MC range.
MCO 2005.17 Sup 2: Prevention of damage to amplifier power supply AM-682/TCC-3.	Amplifier Power Supply AM-682/TCC-3.	Replace 1-amp fuse with 0.5-amp fuse.
MCO 2005.17 Sup 3: Prevention of damage to meter calibrating resistors.	Telephone Terminal AN/TCC-3.	Replacement and repositioning of meter calibrating resistors.
MCO 2005.17 Sup 5: To provide for changing polarization of antenna.	Antenna AS-620/GRC-10.	Addition of 90° antenna adapter.
MCO 2005.17 Sup 6: Prevent entanglement of handset cord with cords of related equip- ment.	Handset TS-9F.	Replace existing handset cord with retractable cord.
MCO 2005.17 Sup 7: Provide mounting that permits easy removal and installation of Telephone Terminal AN/TCC-3.	Mounting of AN/TCC-3.	Installation of two L-shaped brackets.



RADIO REPEATER SET AN/MRC-63

Radio Repeater Set AN/MRC-63

October 1961

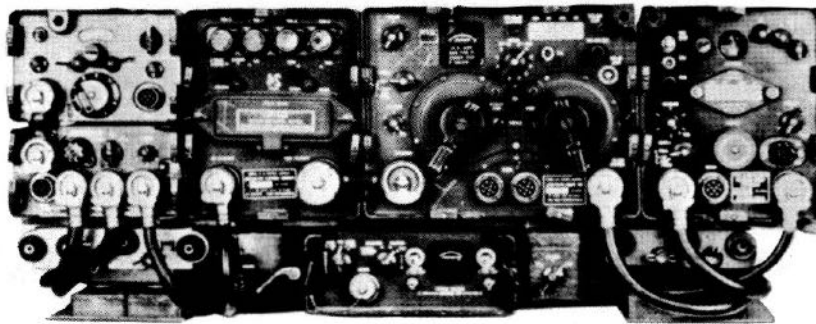


RADIO SETS AN/GRC-3, AN/GRC-5, AND AN/GRC-7

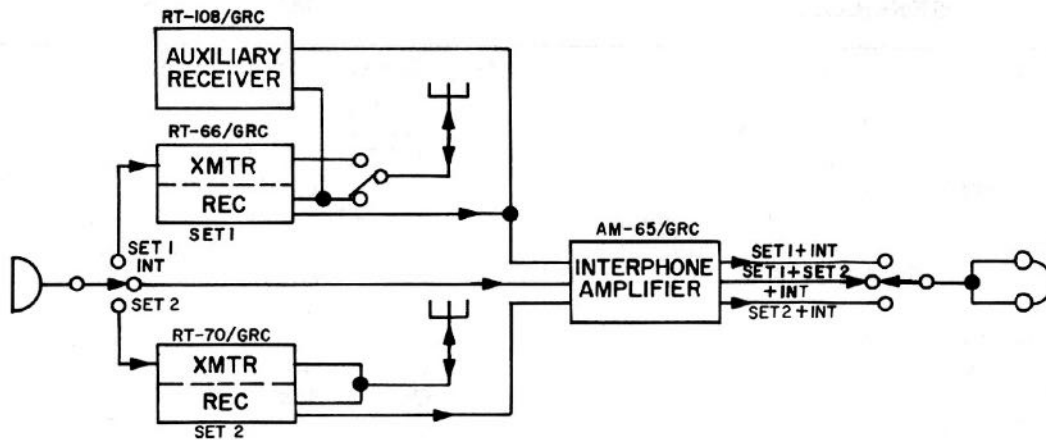
October 1961

Radio Set AN/GRC-3

GENERAL DATA	MAJOR UNITS
<p>F. S. N.: 5820-543-1784                      ID Number: 00979A                      Function: Two-way voice communications.                      Manufacturer: Philco                      Philadelphia, Penna.                      Contracts: Order No. 3180 Phila-51-07.</p> <p>Approximate price: \$3,200.00                      Recommended operational checkout interval: <u>DAILY</u></p>	<ul style="list-style-type: none"> <li>(1) Receiver-Transmitter RT-66/GRC</li> <li>(1) Receiver-Transmitter RT-70/GRC, RT-70A/GRC, or RT-70B/GRC.</li> <li>(1) Radio Receiver R-108/GRC</li> <li>(1) AF Amplifier AM-65/GRC</li> <li>(2) Power Supply PP-281/GRC or PP-282/GRC</li> <li>(1) Power Supply PP-109/GR or PP-112/GR</li> <li>(1) Control Box C-375/VRC</li> <li>(1) Control Group AN/GRA-6</li> <li>(1) Control C-435/GRC</li> <li>(1) Mounting MT-297/GR</li> </ul>



Radio Set AN/GRC-3



AN/GRC-3, Basic Block Diagram.

OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS							
<p>Use: Two-way FM-voice communications for short-range operation between armored units having related equipment operating within the same frequency spectrum. The equipment provides facilities for automatic two-way retransmission, full duplex radio or telephone operation between local and remote control units, interphone communication, local and remote power control, monitoring, and push-to-talk operation from a local or remote control station.</p> <p>Used with: Capable of communication with numerous radio sets. Refer to Figure for related equipment.</p> <p>Installation: Radio Set AN/GRC-3 can be installed and operated from a large variety of vehicles and other authorized locations.</p>	<p>Frequency range: 20 to 27.9 MC. 47 to 58.4 MC.</p> <p>Normal power output: RT-66/GRC: High, 16 watts. Low, 2 watts. RT-70/GRC: 2 watts.</p> <p>Type of modulation: FM.</p> <p>Receiver bandwidth: 80 KC at 60 db.</p> <p>Transmitter frequency deviation: +20 KC at 1000 CPS</p> <p>Primary power requirements: 12-volt systems: 6.5 amp (standby), 15.8 amp (transmit). 24-volt systems: 4.1 amp (standby), 9.5 amp (transmit).</p>							
<p>SIMILAR EQUIPMENTS</p>								
<p>Radio Sets AN/GRC-3, AN/GRC-5, and AN/GRC-7 are similar, differing only in frequency range. The vehicular mounted AN/GRC-3, AN/GRC-5, and AN/GRC-7 are the AN/MRC-36, the AN/MRC-37, and the AN/MRC-38 respectively.</p> <p>Refer to Table 4 for frequency coverage of these and other related equipments.</p>	<p>PHYSICAL CHARACTERISTICS</p> <table border="1"> <thead> <tr> <th data-bbox="745 1673 934 1743">Unit</th> <th data-bbox="934 1673 1186 1743">Overall Weight (in lbs)</th> <th data-bbox="1186 1673 1365 1743">Cubic Feet</th> </tr> </thead> <tbody> <tr> <td data-bbox="745 1743 934 1814">AN/GRC-3</td> <td data-bbox="934 1743 1186 1814">441 (in four packages)</td> <td data-bbox="1186 1743 1365 1814">10.48 (crated)</td> </tr> </tbody> </table>		Unit	Overall Weight (in lbs)	Cubic Feet	AN/GRC-3	441 (in four packages)	10.48 (crated)
Unit	Overall Weight (in lbs)	Cubic Feet						
AN/GRC-3	441 (in four packages)	10.48 (crated)						

RADIO SETS AN/GRC-3, AN/GRC-5, AND AN/GRC-7

Revised  
April 1962

Radio Set AN/GRC-3

PUBLICATIONS

MI-02469-35/1, Crystal Calibrator R-Tran RT-70/GRC, Jan 62.	TM 11-290, Receiver Trans RT-70, A, B/GRC, Dec 57, Ch 1.
MI-5820-35/8, Antenna Cable AN/GRC-3, URC-20, VRC-8, Jan 62.	TM 11-290, Receiver Trans RT-70, A, B/GRC, Apr 58, Ch 2.
MI-5820-35/9, False Meter Readings For C-435/GRC, Feb 62.	TM 11-898, Radio Receiver R-108, 109, 110/GRC, Jan 56.
MI-5820-35/29, Connector Replace Radio Comm Equip, Feb 62.	TM 11-898, Radio Receivers R-108, 109, 110/GRC, Mar 56, Ch 1.
RPL SUPP Radio Set AN/GRC-3, 3X, Apr 58.	TM 11-898, Radio Receiver R-108, 109, 110/GRC, Jun 57, Ch 2.
SIG M8 SUPP, Mounting MT-297/GR, Feb 57.	TM 11-898, Radio Receiver R-108, 109, 110/GRC, Oct 60, Ch 5.
SIG M8 SUPP, Mounting MT-297/GR, Jan 58, Ch 3.	TM 11-5036, PWR Supplies PP-109, A PP-112, A/GR, Dec 54.
SIG 7-8, Mast Base AB-15/GR, Nov 57.	TM 11-5036, PWR Supplies PP-109, A PP-112, A/GR, Ch 1.
SIG 7-8, Mounting MT-297/GR, Oct 56.	TM 11-5036, PWR Supplies PP-109, A PP-112, A/GR, Jan 58, Ch 2.
SIG 7-8, Mounting MT-297/GR, Feb 57, Ch 1.	TM 11-5036, PWR Supplies PP-109, A PP-112, A/GR, Ch 3.
SIG 7-8, Mounting MT-297/GR, Jan 58, Ch 3.	TM 11-5038, Group Control AN/GRA-6, Apr 51.
SIG 7-8, Mounting MT-297/GR, Feb 60, Ch 4.	TM 11-5038, Group Control AN/GRA-6, Dec 54, Ch 1.
SIG 7-8, Radio Receiver R-108/GRC, Nov 56.	TM 11-5038, Group Control AN/GRA-6, Ch 2.
SIG 7-8, Radio Receiver R-108/GRC, Oct 57, Ch 1.	TM 11-5039, AF Amplifier AM-65, A/GRC, Jan 51.
SL-3-00044A, Control Group AN/GRA-6, Sep 61.	TM 11-5039, AF Amplifier AM-65, A/GRC, Aug 52, Ch 1.
SL-3-00979A, Radio Set AN/GRC-3, Jan 61.	TM 11-5039, AF Amplifier AM-65, A/GRC, Oct 53, Ch 2.
SL-4-00044A, Control Group AN/GRA-6, Aug 60.	TM 11-5039, AF Amplifier AM-65, A/GRC, Mar 58, Ch 3.
SL-4-00044A, Control Group AN/GRA-6, Jun 61, Ch 1.	TM 11-5040, PWR SUPP PP-281, A/GRC, PP-282, A/GRC, Nov 50.
SL-4-00044A, Control Group AN/GRA-6, Jan 62, Ch 2.	TM 11-5040, PWR SUPP PP-281, A/GRC, PP-282, A/GRC, Dec 51, Ch 1.
SL-4-02469, Receiver Transmitters RT-70A, B/GRC, Jan 61.	TM 11-5040, PWR SUPP PP-281, A/GRC PP-282, A/GRC, Ch 2.
SL-4-02907A, Receiver Transmitter RT-66/GRC, Dec 60.	TM 11-5820-210-10P, PWR SUPP PP-281, A/GRC PP-282, A/GRC, Feb 60.
TM 11-284, Radio Sets AN/GRC-3-4-5-6-7-8, May 53.	TM 11-5820-210-20P, PWR SUPP PP-281, A/GRC PP-282, A/GRC, Feb 60.
TM 11-284, Radio Sets AN/GRC-3-4-5-6-7-8, Feb 54, Ch 1.	TM 11-5820-210-35P, Power SUPP PP-281, A/GRC-PP, 282A/GRC, Dec 59.
TM 11-284, Radio Sets AN/GRC-3-4-5-6-7-8, Mar 58, Ch 6.	TM 11-5820-234-12P, Radio Set C-435/GRC, Nov 58.
TM 11-289, Receiver Trans RT-66, 67, 68/GRC, Dec 53.	TM 11-5820-234-35P, Radio Set C-435/GRC, Jan 59.
TM 11-289, Receiver Trans RT-66, 67, 68/GRC, Apr 55, Ch 1.	
TM 11-289, Receiver Trans RT-66, 67, 68/GRC, Ch 2.	
TM 11-289, Receiver Trans RT-66, 67, 68/GRC, Mar 57, Ch 4.	
TM 11-290, Receiver Trans RT-70, A, B/GRC Feb 57.	
TM 11-290, Receiver Trans RT-70, A, B/GRC Dec 57, Ch 1.	

RADIO SETS AN/GRC-3, AN/GRC-5. AND AN/GRC-7

Revised  
April 1962

Radio Set AN/GRC-3

PUBLICATIONS

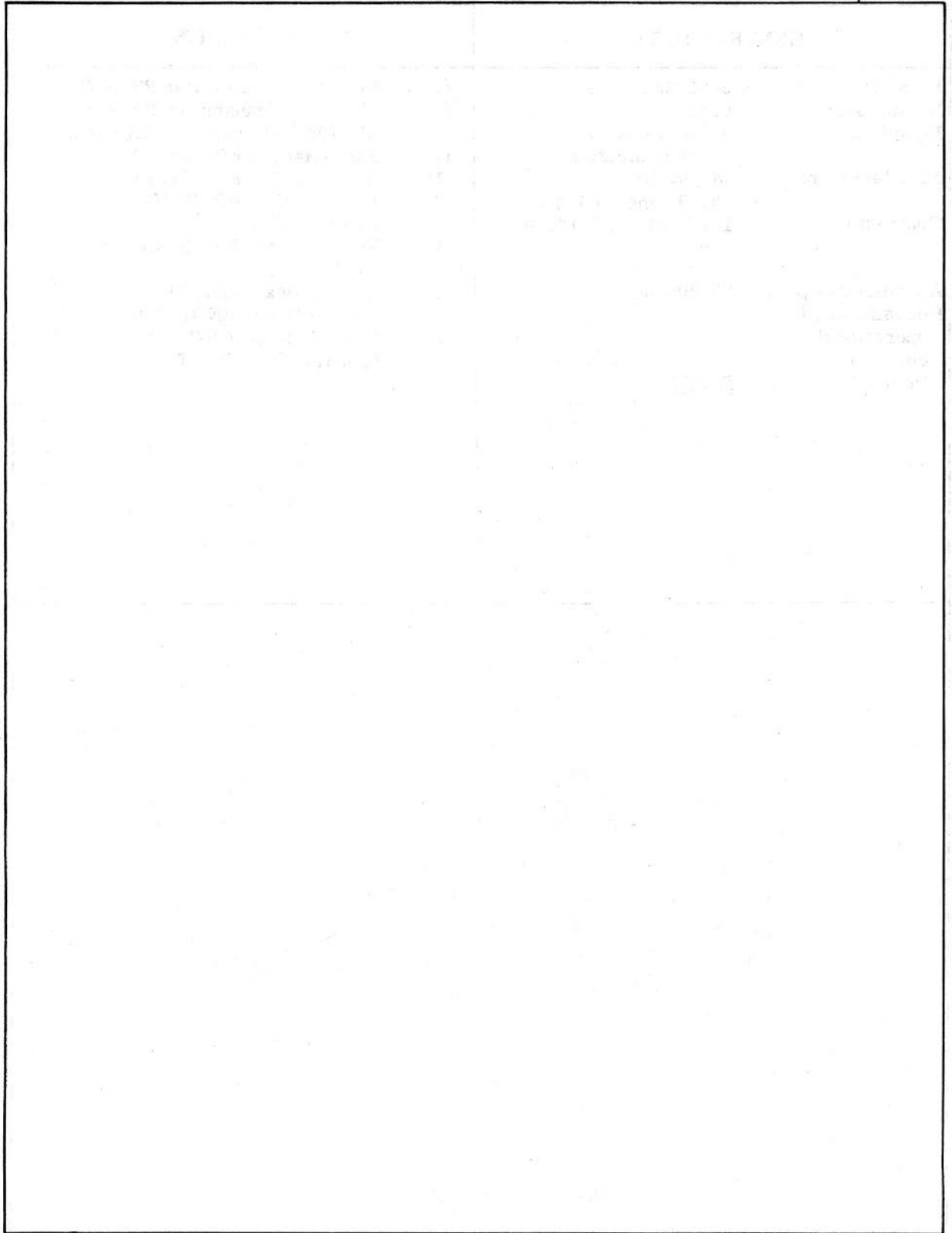
TM 11-5820-281-10P, AF Amplifier  
AM-65, A/GRC, May 59.  
TM 11-5820-281-20P, AF Amplifier  
AM-65, A/GRC, May 59.  
TM 11-5820-281-35P, AF Amplifier  
AM-65, A/GRC, May 59.  
TM 11-5830-203-12P, Intercom Set Control  
C-375/VRC, Dec 58.  
TM 11-5830-203-35P, Intercom Set Control  
C-375/VRC, Jan 59.  
TM 11-5830-209-10P, Interphone Extension  
Kit RC-298, May 59.

TM 11-5830-209-20P, Interphone Extension  
Kit RC-298, May 59.  
TM 11-5830-209-35P, Interphone Extension  
Kit RC-298, Jun 59.  
TM 11-5965-202-35P, Handsets H-33E/PT  
and H-33F/PT, Jan 61.  
TM 11-6130-208-10P, Power Supplies  
PP-112-112A/GR, Jul 59.  
TM 11-6130-208-20P, Power Supplies  
PP-112, A/GR, Jul 59.  
TM 11-6130-208-35P, Power Supplies  
PP-112-112A/GR, Jul 59.

RADIO SETS AN/GRC-3, AN/GRC-5, AND AN/GRC-7

October 1961

Radio Set AN/GRC-3

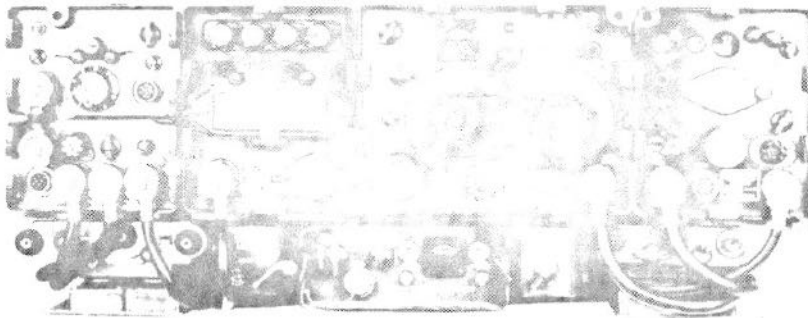


RADIO SETS AN/GRC-3, AN/GRC-5, AND AN/GRC-7

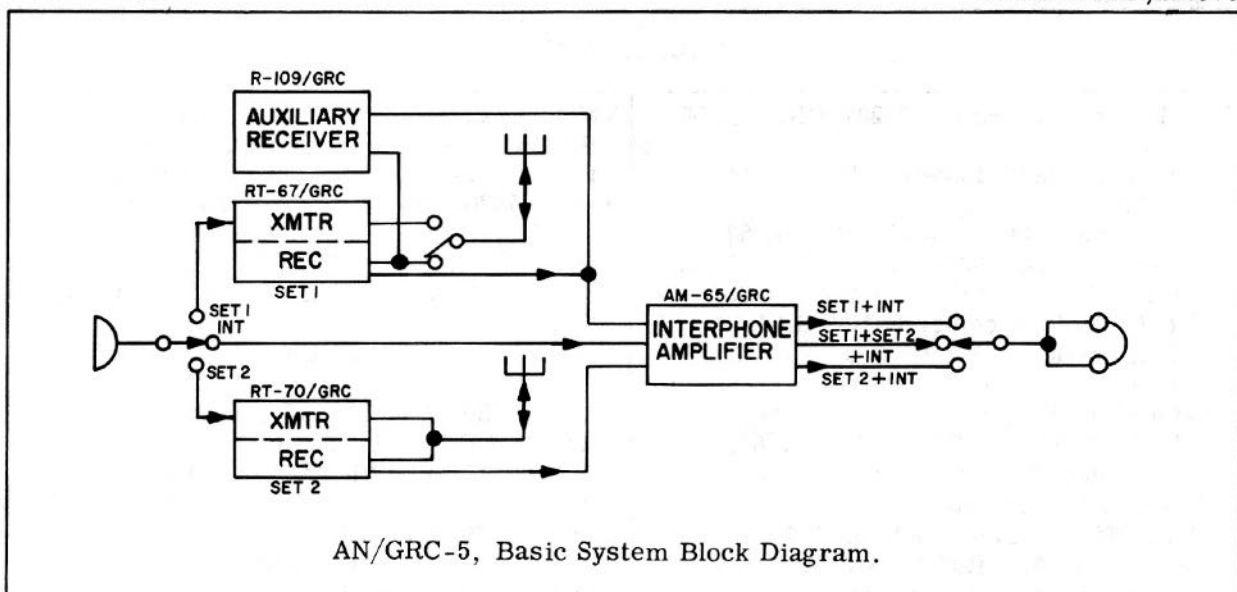
Radio Set AN/GRC-5

October 1961

GENERAL DATA		MAJOR UNITS	
F. S. N.:	5820-230-0449	(1)	Receiver-Transmitter RT-67/GRC
ID Number:	01528A	(1)	Receiver-Transmitter RT-70/GRC, RT-70A/GRC, or RT-70B/GRC.
Function:	Two-way voice communication.	(1)	Radio Receiver R-109/GRC
Manufacturer:	Magnavox	(1)	AF Amplifier AM-65/GRC
	Ft. Wayne, Indiana	(2)	Power Supply PP-281/GRC or PP-282/GRC
Contracts:	DA 36-039-SC-12100	(1)	Power Supply PP-109/GR or PP-112/GR
Approximate price:	\$3,200.00	(1)	Control Box C-375/VRC
Recommended operational checkout interval:	<u>DAILY</u>	(1)	Control Group AN/GRA-6
		(1)	Control C-435/GRC
		(1)	Mounting MT-297/GR



Radio Set AN/GRC-5.



OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS							
<p><b>Use:</b> Two-way FM voice communications for short-range operation between artillery units having related equipment operating within the same frequency spectrum. Provides facilities for automatic two-way retransmission, full duplex radio operation, or telephone operation between local and remote control units, interphone communication, local and remote power control, monitoring, and push-to-talk operation from a local or remote control station.</p> <p><b>Used with:</b> Capable of communication with numerous radio sets. Refer to Figure for related equipments.</p> <p><b>Installation:</b> Can be installed and operated from a large variety of vehicles and other authorized locations. Vehicular installations include landing vehicles LVTP5 and LVTR1.</p>	<p>Frequency range: 20 to 27.9 MC. 47 to 58.4 MC.</p> <p>Normal power output: RT-67/GRC: High, 16 watts. Low, 2 watts. RT-70/GRC: 0.5 watts.</p> <p>Type of modulation: FM.</p> <p>Receiver bandwidth: 80 KC at 6 db.</p> <p>Transmitter frequency deviation: <math>\pm 20</math> KC at 1000 CPS</p> <p>Ring frequency: 1600 CPS.</p> <p>Primary power requirements: 12-volt systems: 6.5 amp (standby), 15.8 amp (transmit). 24-volt systems: 4.1 amp (standby), 9.5 amp (transmit).</p>							
<b>SIMILAR EQUIPMENTS</b>	<b>PHYSICAL CHARACTERISTICS</b>							
<p>Radio Sets AN/GRC-3, AN/GRC-5, and AN/GRC-7 are similar, differing only in frequency range. The vehicular mounted AN/GRC-3, AN/GRC-5, and AN/GRC-7 are the AN/MRC-36, the AN/MRC-37, and the AN/MRC-38 respectively.</p> <p>Refer to Table 4 for frequency coverage of these equipments.</p>	<table border="1"> <thead> <tr> <th>Unit</th> <th>Overall Weight (in lbs)</th> <th>Cubic Feet</th> </tr> </thead> <tbody> <tr> <td>AN/GRC-5</td> <td>441 (in four packages)</td> <td>10.48 (crated)</td> </tr> </tbody> </table>	Unit	Overall Weight (in lbs)	Cubic Feet	AN/GRC-5	441 (in four packages)	10.48 (crated)	
Unit	Overall Weight (in lbs)	Cubic Feet						
AN/GRC-5	441 (in four packages)	10.48 (crated)						



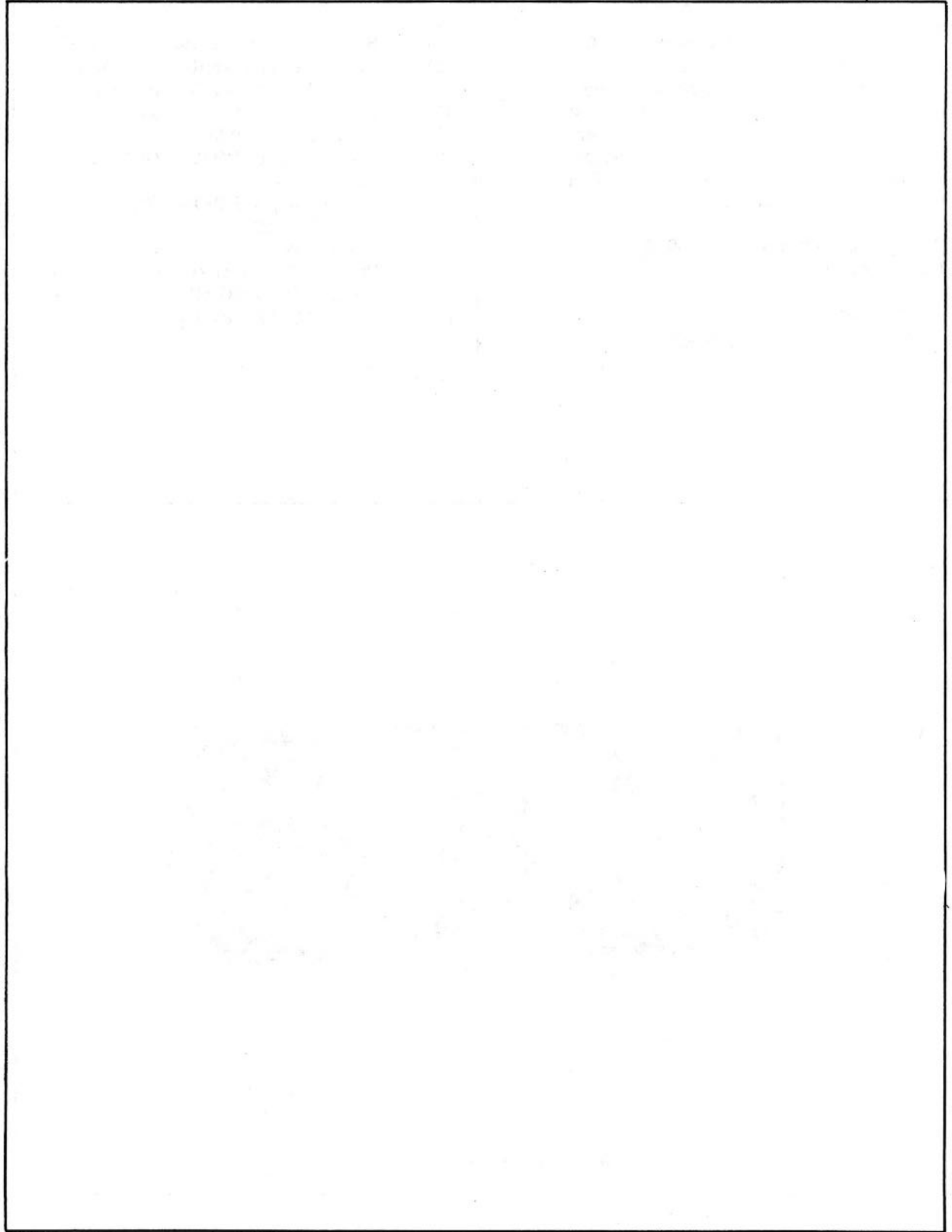
## Radio Set AN/GRC-5

## PUBLICATIONS

- SIG M8 Sup, Mounting MT-297/GR, Feb 57,  
Ch 3 Jan 57.
- SIG M8 Sup, Radio Receiver R-109/GRC,  
Jan 57.
- SIG 7-8, Mast Base AB-15/GR, Nov 57.
- SIG 7-8, Mounting MT-297/GR, Oct 56, Ch 1  
Feb 57, Ch 3 Jan 58, and Ch 4 Feb 60.
- SIG 7-8, Radio Receiver R-109/GRC, Sep 56.
- SIG 7-8, Radio Set AN/GRC-5, Nov 57.
- SL-3-01528A, Radio Set AN/GRC-5, Jan 61.
- SL-4-02469, Receiver Transmitters  
RT-70A/GRC, RT-70B/GRC, Jan 61.
- SL-4-02908A, Receiver Transmitter  
RT-67/GRC, Dec 60.
- TM 11-284, Radio Sets AN/GRC-3,  
AN/GRC-4, AN/GRC-5, AN/GRC-6,  
AN/GRC-7, AN/GRC-8, May 53.
- TM 11-289, Receiver Transmitters  
RT-66/GRC, RT-67/GRC, RT-68/GRC,  
Dec 53.
- TM 11-290, Receiver Transmitters  
RT-70/GRC, RT-70A/GRC, RT-70B/GRC,  
Feb 57, Ch 1 Dec 57 and Ch 2 Apr 58.
- TM 11-898, Radio Receivers R-108/GRC,  
R-109/GRC, R-110/GRC, Jan 56, Ch 1  
Mar 56, Ch 2 Jan 57, and Ch 5 Oct 60.
- TM 11-5036, Power Supplies PP-109/GR,  
PP-109A/GR, PP-112/GR, PP-112A/GR,  
Ch 1 Dec 54, Ch 2 and Ch 3 Jan 58.
- TM 11-5039, AF Amplifier AM-65/GRC,  
AM-65A/GRC, Jan 51, Ch 1 Aug 52,  
Ch 2 Aug 53, and Ch 3 Mar 58.
- TM 11-5820-210-10P, Power Supplies  
PP-281/GRC, PP-281A/GRC,  
PP-282/GRC, PP-282A/GRC, Dec 59.
- TM 11-5820-210-20P, Power Supplies  
PP-281/GRC, PP-281A/GRC,  
PP-282/GRC, PP-282A/GRC, Feb 60.
- TM 11-5820-210-35P, Power Supplies  
PP-281/GRC, PP-281A/GRC,  
PP-282/GRC, PP-282A/GRC, Dec 59.
- TM 11-5820-234-12P, Control C-435/GRC,  
Nov 58.
- TM 11-5820-234-35P, Control C-435/GRC,  
Jan 59.
- TM 11-5820-281-10P, AF Amplifier  
AM-65/GRC, AM-65A/GRC, May 59.
- TM 11-5820-281-20P, AF Amplifier  
AM-65/GRC, AM-65A/GRC, May 59.
- TM 11-5820-281-35P, AF Amplifier  
AM-65/GRC, AM-65A/GRC, May 59.
- TM 11-5830-203-12P, Control Box  
C-375/VRC, Dec 58.
- TM 11-5830-203-35P, Control Box  
C-375/VRC, Jan 59.
- TM 11-5965-202-35P, Handsets H-33E/PT  
and H-33F/PT, Jan 61.
- TM 11-6130-208-10P, Power Supplies  
PP-112/GR, PP-112A/GR, Jul 59.
- TM 11-6130-208-20P, Power Supplies  
PP-112/GR, PP-112A/GR, Jul 59.
- TM 11-6130-208-35P, Power Supplies  
PP-112/GR, PP-112A/GR, Jul 59.
- MI-02469-35/1, Crystal Calibrator R-Tran  
RT-70/GRC, Jan 62.
- MI-5820-35/9, False Meter Readings for  
C-435/GRC, Feb 62.
- MI-5820-35/29, Connector Replace Radio  
Comm Equip, Feb 62.

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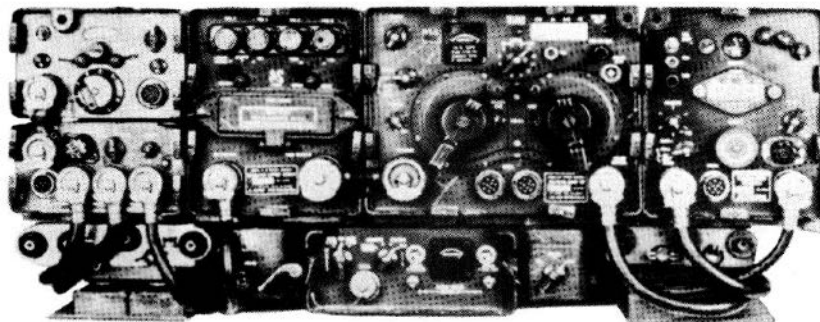
Radio Set AN/GRC-5



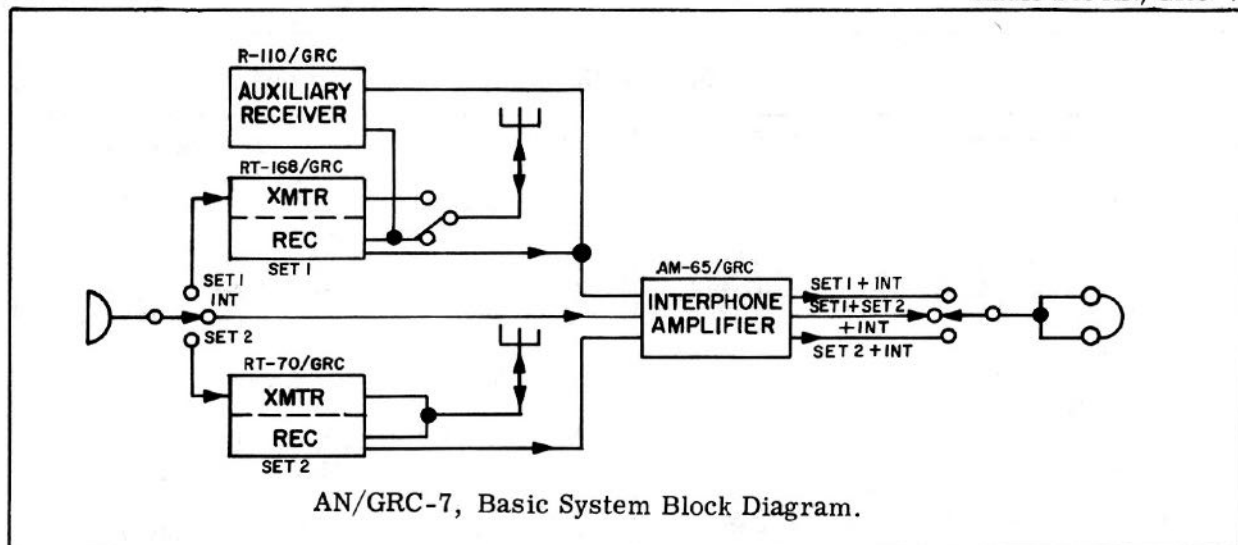
Radio Set AN/GRC-7

October 1961

GENERAL DATA		MAJOR UNITS	
F. S. N.:	5820-230-0446	(1)	Receiver-Transmitter RT-68/GRC
ID Number:	00982A	(1)	Receiver-Transmitter RT-70/GRC, RT-70A/GRC, or RT-70B/GRC
Function:	Two-way voice communication	(1)	Radio Receiver R-110/GRC
Manufacturer:	Stewart Warner Chicago, Illinois	(1)	AF Amplifier AM-65/GRC
Contracts:	DA-36-039-SC-12107	(2)	Power Supply PP-281/GRC or PP-282/GRC
		(1)	Power Supply PP-109/GRC or PP-112/GRC
Approximate price:	\$3, 100. 00	(1)	Control Box C-375/VRC
Recommended operational checkout interval:	<u>DAILY</u>	(1)	Control Group AN/GRA-6
		(1)	Control C-435/GRC
		(1)	Mounting MT-297/GR



Radio Set AN/GRC-7.



AN/GRC-7, Basic System Block Diagram.

OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS							
<p>Use: Two-way FM voice communications for short range operation between infantry units having related equipment operating within the same frequency spectrum. Provides facilities for automatic two-way retransmission, full duplex radio or telephone operation between local and remote control units, interphone communication, local and remote power control, monitoring, and push-to-talk operation from a local or remote control station.</p> <p>Used with: Capable of communication with numerous radio sets. Refer to Figure for related equipments.</p> <p>Installation: Radio Set AN/GRC-7 can be installed and operated from a large variety of vehicles and other locations. Vehicular installations include landing vehicles LVTP5 and LVTR1.</p>	<p>Frequency range: 38 to 54.9 MC. 47 to 58.4 MC.</p> <p>Normal power output: RT-68/GRC: High, 16 watts. Low, 2 watts. RT-70/GRC: 0.5 watt.</p> <p>Type of modulation: FM.</p> <p>Receiver bandwidth: 80 KC at 6 db.</p> <p>Transmitter frequency deviation: <math>\pm 20</math> KC at 1000 CPS.</p> <p>Ringling frequency: 1600 CPS.</p> <p>Primary power requirements: 12 volt systems: 6.5 amp (standby), 15.8 amp (transmit). 24 volt systems: 4.1 amp (standby), 9.5 amp (transmit).</p>							
SIMILAR EQUIPMENT	<p>PHYSICAL CHARACTERISTICS</p> <table border="1" data-bbox="801 1582 1421 1798"> <thead> <tr> <th>Unit</th> <th>Overall Weight (in lbs)</th> <th>Cubic Feet</th> </tr> </thead> <tbody> <tr> <td>AN/GRC-7</td> <td>441 (in four packages)</td> <td>10.48 (crated)</td> </tr> </tbody> </table>		Unit	Overall Weight (in lbs)	Cubic Feet	AN/GRC-7	441 (in four packages)	10.48 (crated)
Unit			Overall Weight (in lbs)	Cubic Feet				
AN/GRC-7	441 (in four packages)	10.48 (crated)						
<p>Radio Sets AN/GRC-3, AN/GRC-5, and AN/GRC-7 are similar, differing only in frequency range. The vehicular mounted AN/GRC-3, AN/GRC-5, and AN/GRC-7 are the AN/MRC-36, the AN/MRC-37, and the AN/MRC-38 respectively.</p> <p>Refer to Table 4 for frequency coverage of these and other related equipments.</p>								

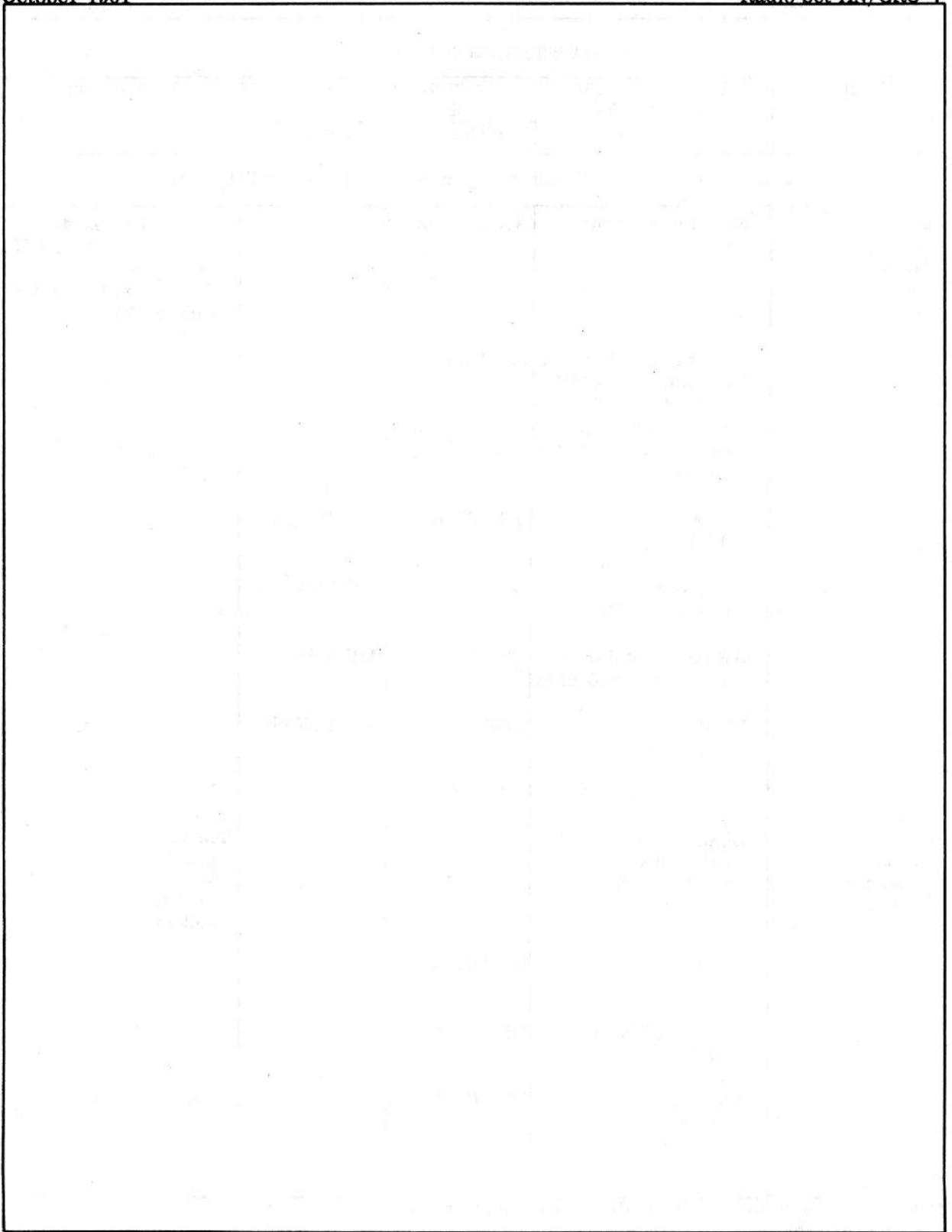
## PUBLICATIONS

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| <p>SIG M8 Sup, Mounting MT-297/GR, Feb 57, Ch 3 Jan 58.</p> <p>SIG 7-8, Mast Base AB-15/GR, Nov 57.</p> <p>SIG 7-8, Mounting MT-297/GR, Oct 56, Ch 1 Feb 57, Ch 3 Jan 58, and Ch 4 Feb 60.</p> <p>SIG 7-8, Radio Set AN/GRC-7, Aug 57 and Ch 1 Mar 59.</p> <p>SL-3-00982A, Radio Set AN/GRC-7, Jan 61.</p> <p>SL-4-02469, Receiver Transmitters RT-70A/GRC, RT-70B/GRC, Jan 61.</p> <p>SL-4-02909A, Receiver Transmitter RT-68/GRC, Dec 60.</p> <p>TM 11-289, Receiver Transmitters RT-66/GRC, RT-67/GRC, RT-68/GRC, Dec 53.</p> <p>TM 11-290, Receiver Transmitters RT-70/GRC, RT-70A/GRC, RT-70B/GRC, Feb 57, Ch 1 Dec 57, and Ch 2 Apr 58.</p> <p>TM 11-898, Radio Receivers R-108/GRC, R-109/GRC, R-110/GRC, Jan 56, Ch 1 Mar 56, Ch 2 and Ch 5 Jun 57.</p> <p>TM 11-5036, Power Supplies, PP-109/GR, PP-109A/GR, PP-112/GR, PP-112A/GR, Dec 54, and Ch 1, Ch 2, and Ch 3 Jan 58.</p> <p>TM 11-5039, AF Amplifier AM-65/GRC, AM-65A/GRC, Jan 51, Ch 1 Aug 52, Ch 2 Oct 53, and Ch 3 Mar 58.</p> <p>TM 11-5820-210-10P, Power Supplies PP-281/GRC, PP-281A/GRC, PP-282/GRC, and PP-282A/GRC, Feb 60.</p> <p>MI-5820-35/9 False Meter Readings for C-435/GRC, Feb 62.</p> | <p>TM 11-5820-210-20P, Power Supplies PP-281/GRC, PP-281A/GRC, PP-282/GRC, and PP-282A/GRC, Feb 60.</p> <p>TM 11-5820-210-35P, Power Supplies PP-281/GRC, PP-281A/GRC, PP-282/GRC, PP-282A/GRC, Dec 59.</p> <p>TM 11-5820-234-12P, Control C-435/GRC, Nov 58.</p> <p>TM 11-5820-234-35P, Control C-435/GRC, Jan 59.</p> <p>TM 11-5820-281-10P, AF Amplifier AM-65/GRC, AM-65A/GRC, May 59.</p> <p>TM 11-5820-281-20P, AF Amplifier AM-65/GRC, AM-65A/GRC, May 59.</p> <p>TM 11-5820-281-35P, AF Amplifier AM-65/GRC, AM-65A/GRC, May 59.</p> <p>TM 11-5820-450-20P, Radio Receiver R-110/GRC, Aug 60.</p> <p>TM 11-5820-450-35P, Radio Receiver R-110/GRC, Oct 60.</p> <p>TM 11-5830-203-12P, Control Box C-375/VRC, Dec 58.</p> <p>TM 11-5830-203-35P, Control Box C-375/VRC, Jan 59.</p> <p>TM 11-5965-202-35P, Handsets H-33E/PT and H-33F/PT, Jan 61.</p> <p>TM 11-6130-208-10P, Power Supplies PP-112/GR and PP-112A/GR, Jul 59.</p> <p>TM 11-6130-208-20P, Power Supplies PP-112/GR and PP-112A/GR, Jul 59.</p> <p>TM 11-6130-208-25P, Power Supplies PP-112/GR and PP-112A/GR, Jul 59.</p> |
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RADIO SETS AN/GRC-3, AN/GRC-5, AND AN/GRC-7

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Radio Set AN/GRC-7



RADIO SETS AN/GRC-3, AN/GRC-5, AND AN/GRC-7

Radio Set AN/GRC-7

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MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Receiver-Transmitter RT-66/GRC, RT-67/GRC, and RT-68/GRC				
Receiver test and alignment	Signal generator: 1.3-19.5 MC	AN/URM-25		TM 11-289, paragraphs 73 through 75, 76.9, 76.10, 76.11, 76.12, 76.13, and 77 through 84.
	Signal generator: 1.4 MC, 4.45 MC, 5.00 MC, 5.35 MC, 20-100 MC; 1 KC modulation, $\pm$ 15 KC deviation	AN/URM-48		
	VTVM: 0-15 VDC	TS-505/U	ME-25( )/U	
	Frequency meter: 1.37-5.05 MC	SCR-211	AN/URM-32	
	AF output meter: 0-600 mw, 600-ohm	TS-585/U	*ME-2U	
	Meter: 0-250 ua	TS-352/U	AN/PSM-4A	
	Test facilities kit	MK-153/GRC		
Transmitter alignment and tests	Dummy antenna w/ RF ammeter: 40-ohm, 100 W			TM 11-289, paragraphs 76, 76.14, 76.15, 76.16, 76.17, 76.18, 76.19, 81, and Figure 63.
	VTVM: 0-15 VDC	TS-505/U	ME-25( )/U	
	Audio oscillator: 1 KC	TS-382( )	LO	
	Panoramic indicator **	IP-173/U		
** Normally used for fourth or fifth echelon maintenance. * Non T/A item.				

RADIO SETS AN/GRC-3, AN/GRC-5, AND AN/GRC-7

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Radio Set AN/GRC-7

MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Receiver-Transmitter RT-66/GRC, RT-67/GRC, and RT-68/GRC				
	Frequency counter:* 1584-1616 CPS	FR-67/U	AN/USM-122	
	Test facilities kit	MK-153/GRC		
	Frequency meter: 27-55 MC	TS-174/U	AN/URM-32	
Receiver-Transmitter RT-70/GRC, RT-70A/GRC, or RT-70B/GRC				
Receiver alignment and tests	VTVM: 0-25 VDC	TS-505/U	ME-25( )/U	TM 11-290, paragraphs 69, 70, 71, 72, 75.9, 75.10, 75.11, 75.12, 75.13, 75.14, 76, 77, 78, and 79.
	Signal generator: 1.4 MC, 15 MC, 47-58.1 MC; 1 KC modulation, 15 KC deviation	AN/URM-48		
	Signal generator: 1.37-1.43 MC 14.9 to 15.1 MC	AN/URM-25		
	Output meter: 0-100 mw	TS-585( )/U	ME-2U	
	AC voltmeter: 0-3 VRMS	ME-6/U	ME-25( )/U	
	Audio oscillator: 400, 1000, 2000, and 5000 CPS	TS-382( )/U	LO-( )	
Transmitter alignment and tests	Milliammeter: 0-10 ma DC	TS-352/U	AN/PSM-4A	
	Test facilities kit	MK-153/GRC		
	VTVM: 0-2 VDC	TS-505/U	ME-25( )/U	

\*Normally used for fourth or fifth echelon maintenance.



RADIO SETS AN/GRC-3, AN/GRC-5, AND AN/GRC-7

Radio Set AN/GRC-7

October 1961

MAINTENANCE DATA

Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Receiver-Transmitter RT-70/GRC, RT-70A/GRC, or RT-70B, GRC				
Transmitter alignment and tests	Dummy antenna: 50-ohm 1 watt			TM 11-290, paragraph 50
	Audio oscillator: 400, 1000, and 2000 CPS	TS-382( )/U	LO-( )	TM 11-290, paragraphs 73, 74, 75.15, 75.16, 75.17, 75.18, and 80
	Output meter: 0-100 mw	TS-585( )/U	ME-2U	
	Signal generator: 5.00 MC, 47-53 MC 1 KC modulation, 20 KC deviation	AN/URM-48		
	Test facilities kit	MK-153/GRC		
	Panoramic indicator *	IP-173/U		
Radio Receiver R-108/GRC, R-109/GRC, R-110/GRC				
Alignment and testing	VTVM: 0-24 VDC	TS-505/U	ME-25( )/U	TM 11-898, paragraphs 52 through 67, 67.2, 67.3, 67.4, 67.5, 67.6, and 67.7
	Signal generator: 4.25-4.35 MC	AN/URM-25	AN/URM-26B	
	Voltmeter: 0-20 VDC	TS-352/U	ME-25( )/U	
	Signal generator: 20-55 MC, 1 KC modulation, 15 KC deviation	AN/URM-48		
	Electronic AC voltmeter: 0-20 VAC	ME-6( )/U	ME-25( )/U	
	Audio oscillator: 400-5000 CPS	TS-382( )/U	LO	
* Normally used for fourth or fifth echelon maintenance.				

RADIO SETS AN/GRC-3, AN/GRC-5, AND AN/GRC-7

October 1961

Radio Set AN/GRC-7

MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Radio Receiver R-108/GRC, R-109/GRC, or RT-110/GRC				
Alignment and testing	Frequency meter: 4.3-50 MC	TS-174/U	AN/URM-32	
	Output meter: 600-ohm, 0-200 mw	TS-585( )/U	*ME-2U	
	Test facilities kit	MK-153/GRC		
	Microammeter: 0-250 ua	TS-352/U	AN/PSM-4A	
AF Amplifier AM-65/GRC				
Operational checks and troubleshooting	Audio oscillator: 400-5000 CPS	TS-382( )/U	LO-( )	TM 11-5039, paragraphs 45 through 49, 44.12, 44.13, and 44.14.
	Electronic AC volt- meter: 0-50 V	ME-6( )/U	ME-25( )/U	
	Output meter: 600-ohm 0-300 mw	TS-585( )/U	*ME-2U	
	Multimeter: general purpose high impedance	TS-352/U	ME-25( )/U	
	Test facilities kit	MK-153/GRC		
	Spectrum analyzer**	TS-723/U		
Power Supply PP-109/GR or PP-112/GR				
Operational checks and troubleshooting	Electronic volt- meter: 0-2.5 VAC	ME-6/U	ME-25( )/U TS-505/U	TM 11-5036, paragraphs 36, 45, 46
	Electronic multi- meter: 0-200 VDC	TS-505/U	ME-25( )/U	
	DC ammeter: 0-20 amp	I-50		
** Normally used for fourth or fifth echelon maintenance.				
*Non T/A item.				

RADIO SETS AN/GRC-3, AN/GRC-5, AND AN/GRC-7

Radio Set AN/GRC-7

October 1961

MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Power Supply PP-281/GRC, PP-282/GRC				
Operational checks and trouble-shooting	DC ammeter: 0-5 amp	TS-352/U	AN/PSM-4A	TM 11-5040 paragraphs 18, 23-25
	Electronic multi-meter: 0-200 VDC	TS-505/U	ME-25( )/U	
	Electronic AC volt-meter: 0-2.5 volts	ME-6( )/U	ME-25( )/U	
Control Group AN/GRA-6				
Operational checks and trouble-shooting	Multimeter: general purpose	TS-505/U	ME-25( )/U	TM 11-5038 paragraphs 62-72
	AC voltmeter: optional	ME-6( )/U	ME-25( )/U	

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Radio Set AN/GRC-7

EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
MCO 2005.9 Sup 2: To eliminate acoustic feedback.	All MT-297/GR mountings.	On terminal board E6, the slate colored lead is moved from pin 8 to pin 13.
MCO 2005.9 Sup. 3: To replace existing connectors with improved connectors.	All AM-65/GRC amplifiers using Amphenol connectors not marked 164-1M or 164-3M.	Connectors J2, J3, J4 and J6 should be the improved Amphenol connector or similar connectors of a different manufacturer.
MCO 2005.9 Sup. 4: To eliminate intermittent operation.	All AM-65/GRC amplifiers.	The cadmium plated power supply clamp is replaced by an olive-drab bracket.
MCO 2005.9 Sup. 5: To prevent disengagement of plug-in capacitor C-1 due to shock and vibration.	All AM-65/GRC amplifiers.	A retaining clamp on capacitor C1.
MCO 2005.9 Sup 7: To protect exposed connectors.	All C-435/GRC controls and C-375/VRC control boxes.	Bead-chain-attached connector caps for audio connectors.
MCO 2005.9 Sup. 8: To prevent breakage of locking strips.	All MT-297/GR mountings.	Replacement locking strips have elongated stress-relief holes.
MCO 2005.9 Sup 9: To prevent power supply failure.	All PP-109/GR and PP-112/GR power supplies using Amphenol connectors not marked 163-1M or 164-1M.	Connector J1 should be the improved Amphenol connector or similar connectors of a different manufacturer.
MCO 2005.9 Sup. 10: To prevent accidental keying of the ringing circuit when in receiving condition, and to provide additional support to a transformer.	All PP-109/GR power supplies procured by order numbers 18651-PHILA-49 and 1759-PHILA-51.	The lead from the top terminal of R30 to terminal 2 of resistor socket X-13 is removed and replaced with a lead from the top of R30 to the top terminal of R13.

EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
MCO 2005.9 Sup. 10:	All PP-112/GR power supplies procured on order numbers 18651-PHILA-49, 21433-PHILA-50 (serial numbers 43176 through 65070), and 1759-PHILA-51.	
	All PP-109/GR and PP-112/GR power supplies procured prior to 1953 (as indicated by the last two numbers of the purchase order number).	
MCO 2005.9 Sup. 11: To prolong vibrator life and reduce ripple in the -27 volt DC supply.	All PP-109/GR and PP-112/GR power supplies.	Vibrator socket X1 pins 5 and 6 and pins 1 and 2 are shorted together: A selenium rectifier is placed across T1. Capacitor C3 is placed parallel to C4.
MCO 2005.9 Sup. 12: To prevent wear and puncture between the case and the back plate chassis, and to add support for the bottom chassis.	All PP-109/GR and PP-112/GR power supplies.	Addition of pressure spring plate between the back plate and the top and bottom of the chassis.
	Early models on which the right front corner of the bottom chassis is supporter.	
MCO 2005.9 Sup. 13: To prevent C3 from shaking loose, and R3 from shorting.	All PP-281/GRC, PP-282/GRC, and PP-448/GR power supplies.	Installation of a spring clip on the inside of the top cover to hold down C3.
	All PP-281/GRC power supplies.	Addition of a spacer under R3 and inspection of the terminals of R3 and R4 for a 3/16-inch clearance to the chassis.
	All PP-281/GRC and PP-282/GRC power supplies.	Inspect the terminals of R2 for a 3/16-inch clearance to the chassis.

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Radio Set AN/GRC-7

EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
MCO 2005.9 Sup. 14: To prevent breakage of J6 and J8.	All R-108/GRC, R-109/GRC, and R-110/GRC receivers having Amphenol connectors not marked with the letter (M).	Connectors J6 and J8 should be the improved Amphenol connector or similar connectors of a different manufacturer.
MCO 2005.9 Sup. 15: To install a cable protector and reposition the volume control.	All R-108/GRC, R-109/GRC, and R-110/GRC receivers.	A WARNING decal on the side panel in front of V1. Control R62 is rotated to have the stop lug engage the blind hole at the top edge. A new cable protector guard plate on the bottom of the power supply compartment with an access hole to J2.
MCO 2005.9 Sup. 16: To prevent receiver instability at low temperatures.	All R-108/GRC, R-109/GRC, and R-110/GRC receivers.	A 70-millihenry RF choke is connected between terminals 2 and 5 of socket X19.
MCO 2005.9 Sup. 17: To prevent equipment failures due to a defective connector.	All RT-66/GRC, RT-67/GRC, and RT-68/GRC receiver-transmitters having a connector that does not have the letter (m) on the insert face.	Connector J312 should be the improved connector.
MCO 2005.9 Sup. 18: To prevent accidental detuning of RF coils.	All RT-66/GRC, RT-67/GRC, and RT-68/GRC receiver-transmitters.	Coils L1, L3, L12, L16, and L18 have replacement locking spring clips.
MCO 2005.9 Sup. 19:	All RT-66/GRC, RT-67/GRC, and RT-68/GRC receiver-transmitters.	A 0.002-uf capacitor is placed between terminals 4 and 6 of T115.
MCO 2005.9 Sup. 20: To ensure proper trimming range at the high frequency end of the band.	All RT-66/GRC, RT-67/GRC, and RT-68/GRC receiver-transmitters.	A 5-uuf 5000-WVDC capacitor is placed between terminals 9C and 9T of L22.

RADIO SETS AN/GRC-3, AN/GRC-5, AND AN/GRC-7

Radio Set AN/GRC-7

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EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
MCO 2005.9 Sup. 21: To prevent improper operation and breakage of cam linkage in the transmitter tuning assembly.	All RT-66/GRC, RT-67/GRC, and RT-68/GRC receiver-transmitters.	Replacement of end links with new type slotted end links on the cam assembly.
MCO 2005.9 Sup. 22: To improve retransmission facilities.	All RT-66/GRC receiver-transmitters.	Some of the major changes are removal of R54, R55, and C76. A 470K resistor is placed between pin 2 of relay 0-101 and pin 12 of J108.
	All RT-67/GRC receiver-transmitters.	Some of the major changes are removal of C197. Replacement of R175 by a 150K resistor. A 470K resistor is placed between pin 2 of relay 0-101 and pin 11 of J10P.
	All RT-68/GRC receiver-transmitters.	Resistor R11, 22K, is moved from pin 3 of tube socket X2 to tie point 4B. In units having no C78, a 10,000-uuf capacitor is placed between pin 3 of relay 0-1 and the tie point next to pin 8 of tube socket X11.
MCO 2005.9 Sup. 23: To prevent breakage of V106, V107, and V108.	All RT-70/GRC receiver-transmitters.	A steel guard is mounted on S101 to guard tubes V106, V107, and V108.
MCO 2005.9 Sup. 24: To prevent erratic operation of the receiver limiter.	All RT-70/GRC receiver-transmitters with the following order and serial numbers. Federal Tel. and Radio Corp Order number 284-PH-52, all sets with serial numbers below 5601. Stewart-Warner order number 2918-PH-52, all sets with serial numbers below 5432.	The original capacitor C116 is removed. A new C116, 10,000-uuf is placed between terminal 5 of tube socket X102 and the ground lug of C157. The lead from terminal 3 of T103 to terminal 6 of the terminal board is removed.

RADIO SETS AN/GRC-3, AN/GRC-5, AND AN/GRC-7

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Radio Set AN/GRC-7

EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
MCO 2005.9 Sup. 25: To prevent failure due to breakage of J203.	All RT-70/GRC receiver-transmitters using Amphenol connectors not marked with the letter M.	Connector J203 should be the improved Amphenol connector or similar connectors of a different manufacturer.
MCO 2005.9 Sup. 26: To prevent audio feedback.	All RT-70/GRC receiver-transmitters.	Addition of a 0.01-uf capacitor between pin 4 of T101 and ground.
MCO 2005.9 Sup. 28: To modify all RT-70/GRC to the same operational characteristics as the RT-70A/GRC.	All unserviceable RT-70/GRC receiver-transmitters returned to field or higher activities for major overhaul.	Many leads and components in the filament circuit are removed, new leads and components are inserted in their place. Some of the major changes are: removal of R117, R11, R12 and C133. A 470-ohm resistor, R144 is placed between pins 1 and 7 of tube socket X105. Choke L102 is removed and replaced with a 13-ohm resistor, R145. Capacitor C109 is changed to a 39-uuf capacitor. Tube V106, a 1R5, is replaced with a 3A5.
MCO 2005.9 Sup 29: To prevent breakage of solid wire leads by use of reinforcing brackets, and replacement of solid wire leads with stranded wire leads.	All RT-66/GRC, RT-67/GRC, and RT-68/GRC receiver-transmitters of December 1953.	Support brackets are placed from the IF chassis to the back panel, from the chassis to the front panel, between the RF and IF chassis in coil compartment T8, on the IF chassis to support back panel and for mounting the RF trimmer protector plate.
	All RT-66/GRC, RT-67/GRC, and RT-68/GRC receiver-transmitters.	The solid wire leads in the RF tuning circuit are changed to number 20 AWG stranded wire.



RADIO SETS AN/GRC-3, AN/GRC-5, AND AN/GRC-7

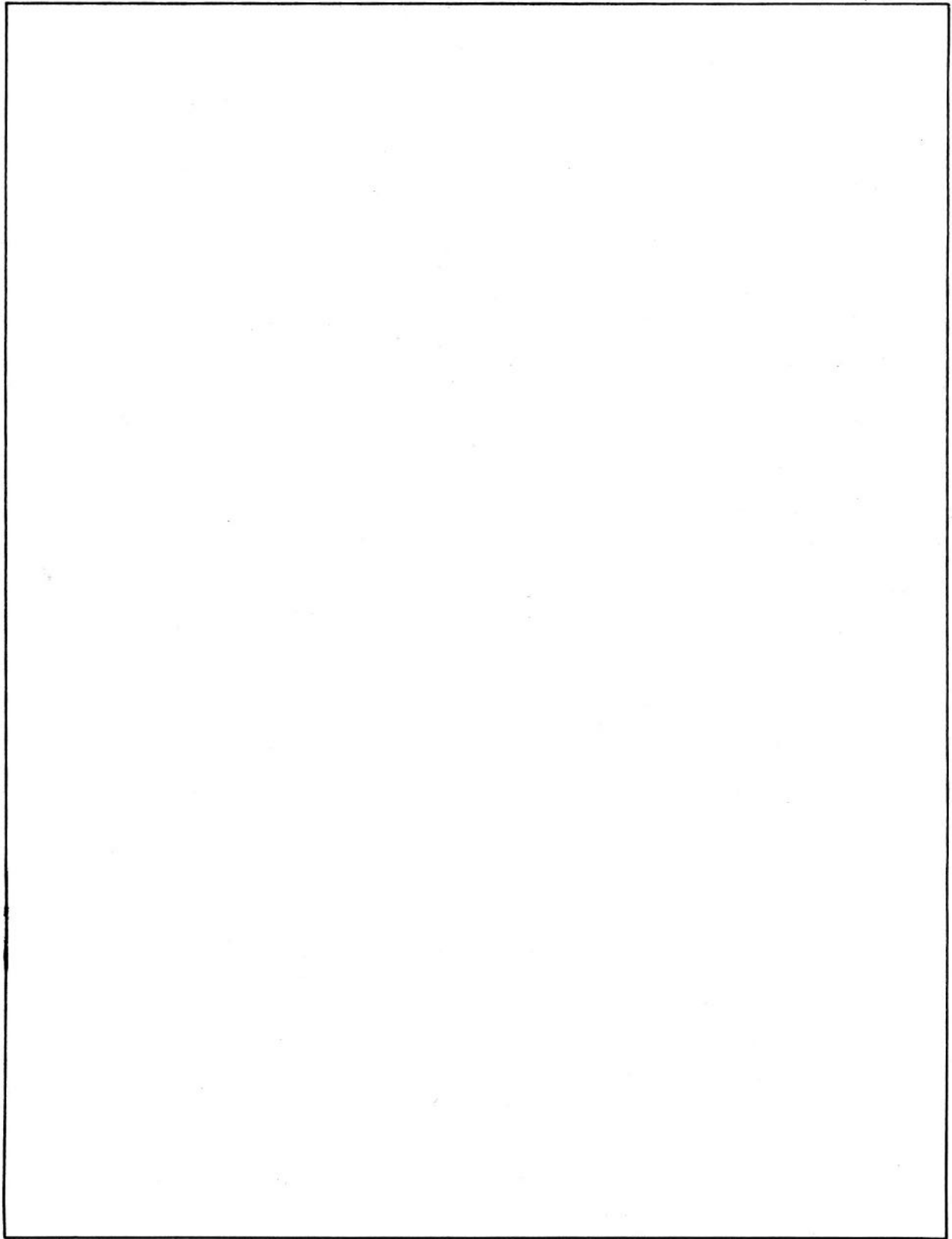
Radio Set AN/GRC-7

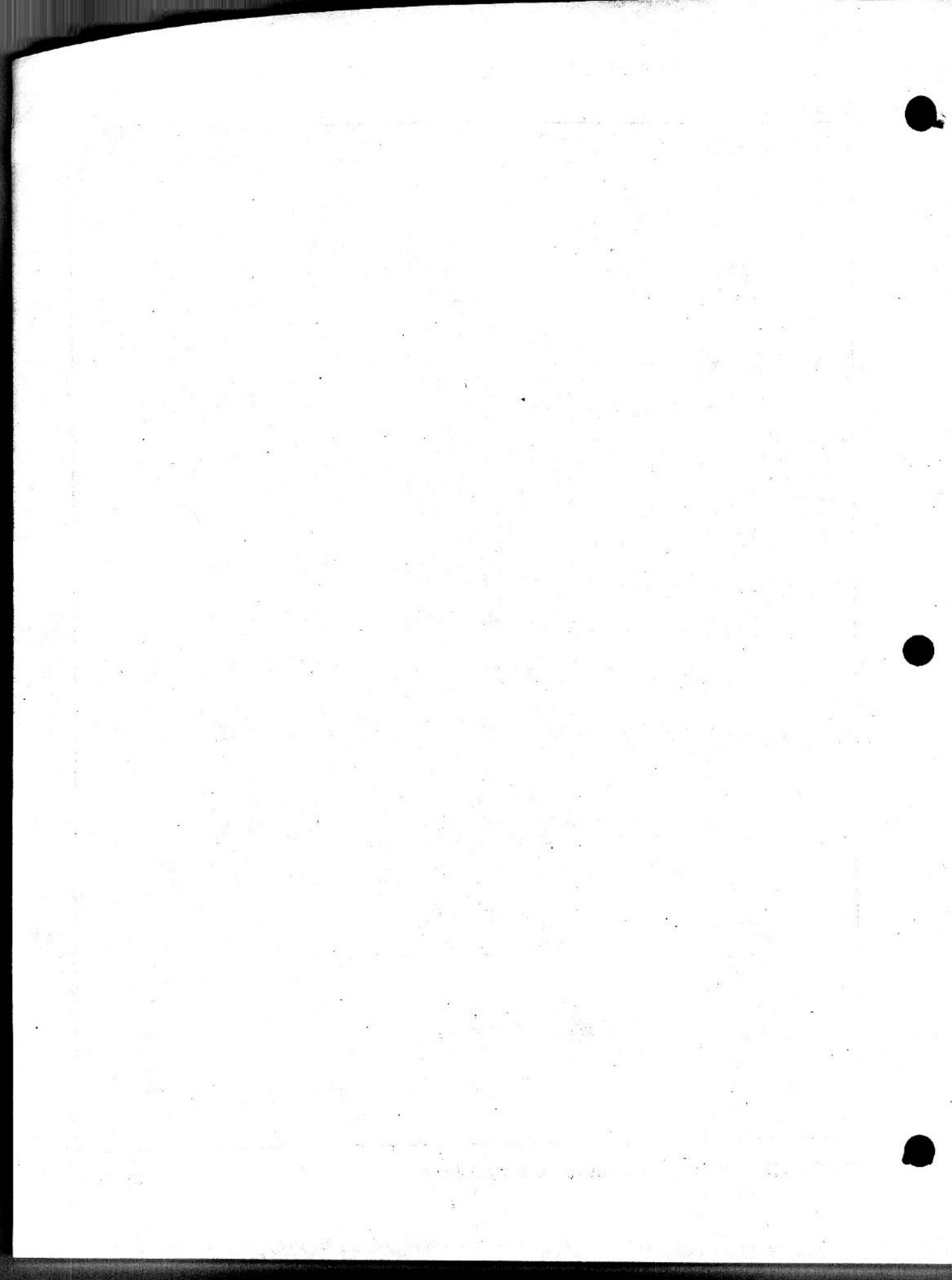
October 1961

EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
MCO 2005.9 Sup. 30: To reduce excessive filament voltage in the RF and driver stages.	All RT-66/GRC, RT-67/GRC, and RT-68/GRC receiver-transmitters.	Chokes L14 and L15 are replaced with 10-ohm resistors.
MCO 2005.7 Sup 2: To protect exposed connectors.	All control groups AN/GRA-6.	Bead-chain-attached connector caps for exposed audio connectors.
MI-02469-35/1 Crystal calibrator	RT-70/GRC	Capacitor C-47 0.5 uuf replaced by a 2 uuf capacitor.
MI-5820-35/9 False meter readings	C-435/GRC	Installation of a 3000 uuf ceramic capacitor across crystal rectifier CR-1.
MI-5820-35/8	AN/GRC-3	Cable assembly CG-530A/U replaced by cable assembly CG-568/U.

October 1961

Radio Set AN/GRC-7



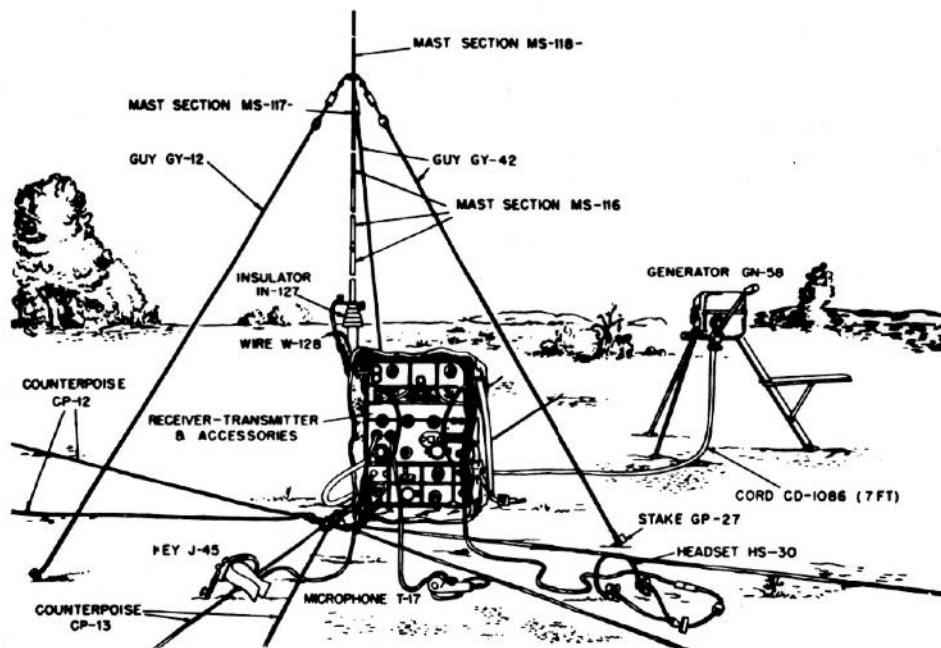


# RADIO SET AN/GRC-9Z

October 1961

Radio Set AN/GRC-9Z

GENERAL DATA	MAJOR UNITS
<p>F. S. N: 5820-564-9678                      ID Number: 00049A                      Function: Two-way voice communications.                      Manufacturer: MCSC Albany, Ga.                      MCSC Barstow Calif.                      Contracts: Albany. No. 54-781-701                      Barstow. No. 54-781-700,                      54-781-706                      Approximate price: \$32,000.00                      Recommended operational checkout interval: <u>DAILY</u></p>	<p>(1) Receiver-Transmitter RT-77 ( )/GRC-9                      (1) Antenna AT-101/GRC-9                      (1) Antenna AT-102/GRC-9                      (3) Antenna Elements MS-116 or MS-116A                      (1) Antenna Element MS-117 or MS-117A                      (1) Antenna Element MS-118 or MS-118A                      (1) Antenna Counterpoise CP-13                      (1) Generator GN-58</p>

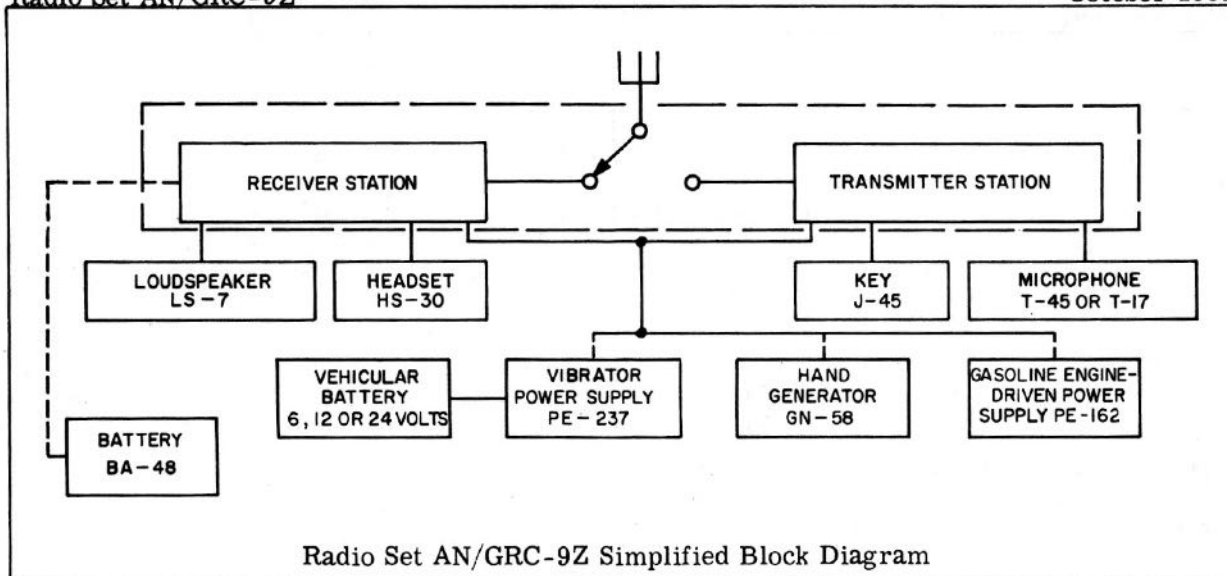


Radio Set AN/GRC-9Z.

# RADIO SET AN/GRC-9Z

Radio Set AN/GRC-9Z

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OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS		
<p>Use: Radio Set AN/GRC-9Z is a portable, low-power radio transmitter and receiver that is utilized in ground installations but may be installed for vehicular operation with the addition of JCENS Installation Kit-Power Supply Mk-365/GRC-9 (not furnished with this equipment). The radio set is designed to transmit and receive tone, voice, or CW signals within the frequency range of 2 to 12 megacycles. The receiver-transmitter unit is physically and electrically divided into two separate sections which are connected by means of an interconnecting cable. The receiver and transmitter utilize the same antenna.</p> <p>Used with:</p> <p>Installation: Portable.</p>	<p>Transmission and reception type: CW, MCW and phone.</p> <p>Frequency range: Band 1; 6.6 to 12 MC. Band 2; 3.6 to 6.6 MC. Band 3; 2.0 to 3.6 MC.</p> <p>Distance range: CW; 30 miles. MCW; 20 miles. Voice; 10 miles.</p> <p>Power input: Trans. B + 425V Trans. Fil. 6.3V Rec. B + 105V Rec. Fil. 1.4V AM.</p> <p>Modulation type: Superheterodyne.</p> <p>Receiver type: Superheterodyne.</p> <p>Crystal channels: 2 crystals in each band.</p> <p>Antennas: Whip or long-wire.</p> <p>Batteries: One BA-48, one BA-1293/U.</p>		
SIMILAR EQUIPMENTS	PHYSICAL CHARACTERISTICS		
<p>Radio Sets AN/GRC-9, AN/GRC-9A, AN/GRC-9Y, AN/GRC-9AX, AN/GRC-87, AN/URC-34, and AN/MRC-84.</p>	Unit	Overall Weight (in lbs)	Cubic Feet
	AN/GRC-9Z	221 (in 3 packages)	11.3 (crated)

RADIO SET AN/GRC-9Z

Revised  
April 1962

Radio Set AN/GRC-9Z

PUBLICATIONS

D/L VOL I, Install Kit-Pwr Supply  
Mk-365/GRC-9, Sep 57.  
RPL 00049A, Radio Set AN/GRC-9Z, Nov 58.  
RPL 00224A, Pwr Sup Inst Kit Veh  
Mk-365/GRC-9, Nov 58.

TM 11-263, Radio Set AN/GRC-9,  
AN/GRC-9A, AN/GRC-9AX, AN/GRC-9X,  
and AN/GRC-9Y, Jun 56, Ch 1 Oct 57, Ch 2.  
SL-3-00049A, Radio Set AN/GRC-9Z,  
Sep 61.

RADIO SET AN/GRC-9Z

Radio Set AN/GRC-9Z

October 1961

MAINTENANCE DATA					
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions	
		Preferred	Alternate		
Organizational maintenance	No special tools or equipment required			TM 11-263, paragraphs 62 through 83.	
Receiver and transmitter alignment and final testing	Signal generator: 456 KC, 6.6 and 12 MC	AN/URM-25 ( )	LP-5*	TM 11-263, paragraphs 217 through 264.	
	Multimeter: 0 to 275 VDC 0 to 10 ma	TS-352 ( )/U	AN/PSM-4A		
	Frequency meter: 2 to 11.2 MC	AN/URM-79	AN/URM-32		
	Ammeter: 0 to 5 amps R. F.	IS-76	Westinghouse* Type VT-35		
	Ammeter: 0 to 500 ma D. C.	TS-352 ( )/U	AN/PSM-4A		
	Oscilloscope	OS-8 ( )/U	OS-10/U*		
	Audio oscillator: 250 to 3000 CPS	TS-382 ( )/U	LO- ( )		
	Frequency meter: 700 to 1100 CPS	FR-67/U	HP-5240* AN/USM-122		
	Multimeter: 0 to 4.25 volts	ME-6 ( )/U	ME-30/U		
	VTVM: 0 to 680 volts	TS-505/U	ME-25 ( )/U		
		*Non T/A item			

RADIO SET AN/GRC-9Z

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Radio Set AN/GRC-9Z

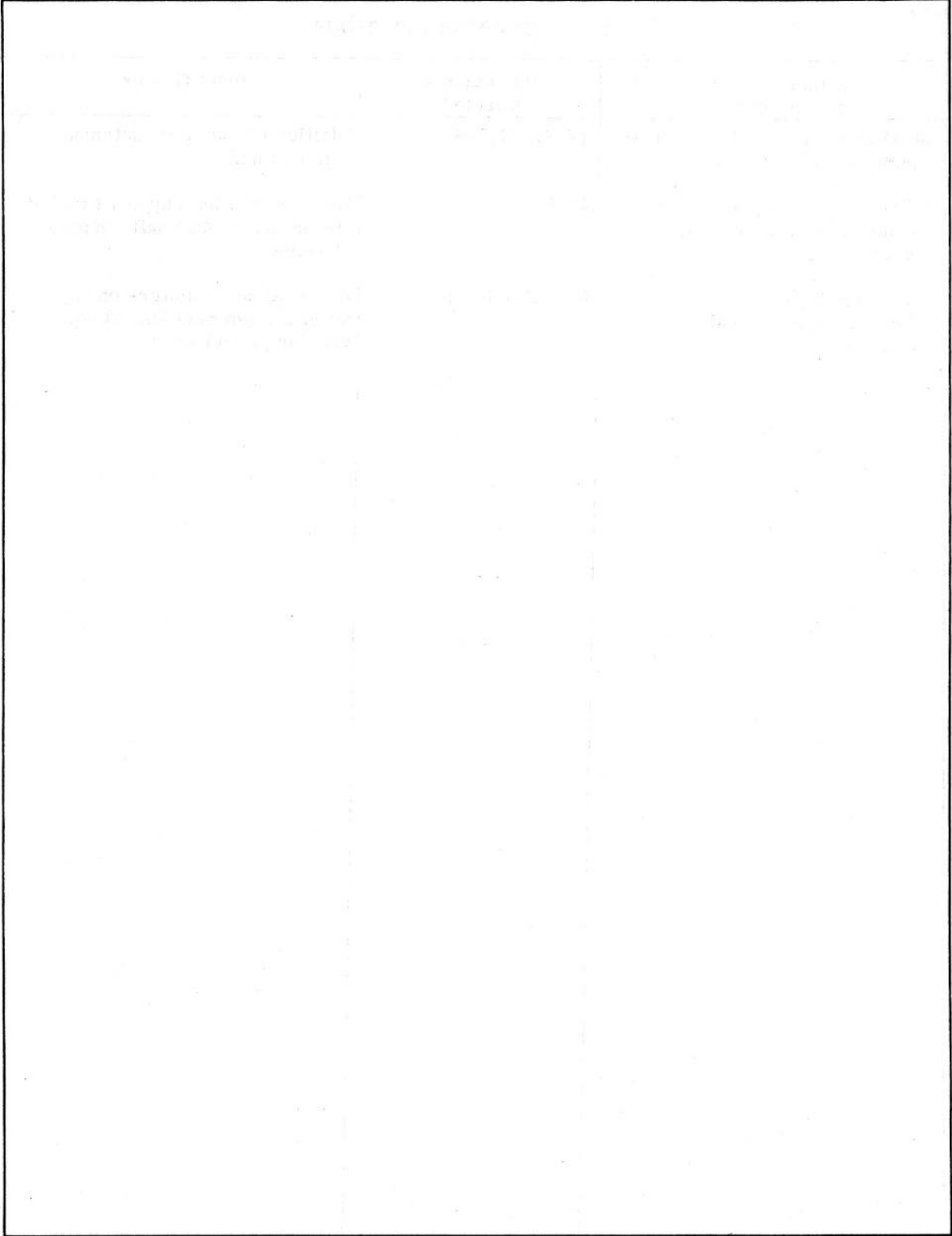
EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
MCO-2005. 10 Sup 3A: Improved number dial and lock.	RT-77/GRC-9	Addition of clamp on antenna tuning shaft.
MCO-2005. 10 Sup 4: To overcome failures of bearing seals w/ch 1.	GN-58 GN-58A	Addition of a leg support bracket to the left crankshaft coupling housing.
MI-0049A-25/1 Permanent electrical connection	AT-101/GRC-9	Two lead-in insulators on the antenna from reel RL-29 equipped with jumper wires.



RADIO SET AN/GRC-9Z

Radio Set AN/GRC-9Z

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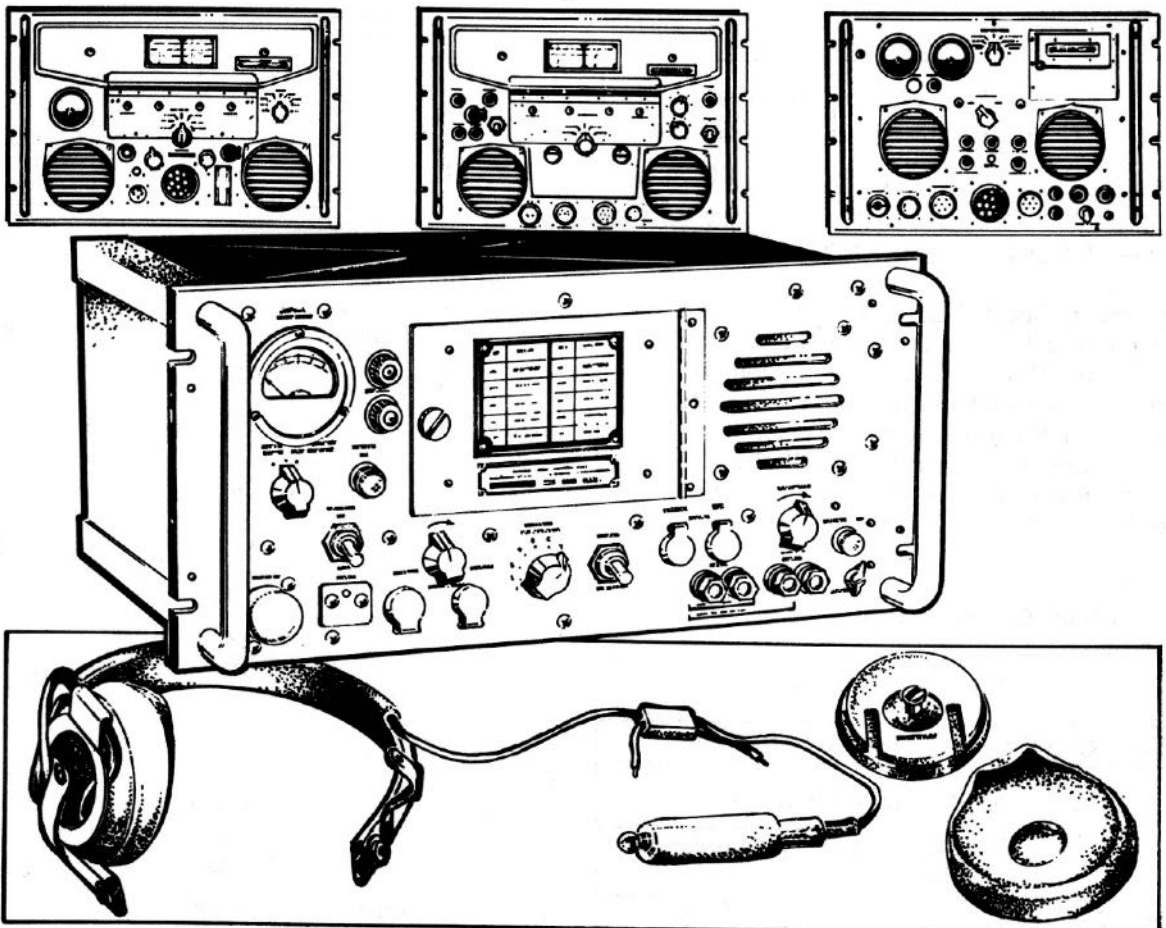


# RADIO SET AN/GRC-48

October 1961

Radio Set AN/GRC-48

GENERAL DATA	MAJOR UNITS
<p>F. S. N: 5820-566-5538                      ID Number: 00052A                      Function: Two-way voice or                      MCW communication                      Manufacturer: MCSC, Albany,                      MCSC, Barstow.                      Contracts: Albany, 54-781-700                      Job 4, Barstow,                      54-781-701-Job 4.                      Approximate price: \$6, 800. 00                      Recommended                      operational                      checkout                      interval: <u>DAILY</u></p>	<p>(1) Antenna AS-390/SRC                      (1) Electrical Connector Assembly                      J-306/GR                      (1) Manual Radio Set Control                      C-1335/TRC-32                      (1) Automatic Radio Set Control                      C-1336/TRC-32                      (1) Electrical Headset MHS-11                      (1) Mast AB-155A/U, 8 sections, 40 ft.                      (1) Carbon Microphone                      (1) Modulator-Power Supply                      MD-129A/GR                      (1) Radio Receiver R-278B/GR                      (1) Radio Transmitter T-217A/GR</p>

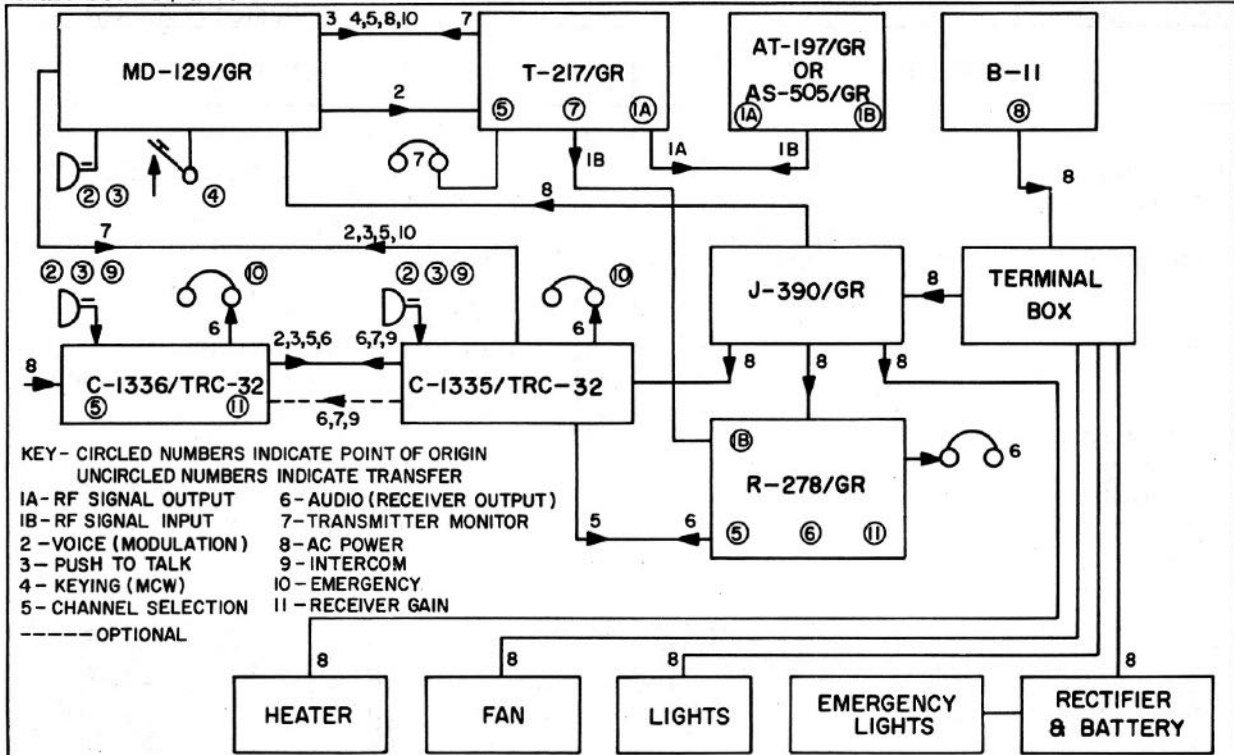


Radio Set AN/GRC-48.

# RADIO SET AN/GRC-48

Radio Set AN/GRC-48

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Radio Set AN/GRC-48 System Block Diagram.

OPERATIONAL CHARACTERISTICS			TECHNICAL CHARACTERISTICS	
<p>Use: Radio Set AN/GRC-48 is a general purpose communication set designed for fixed ground installation. It provides ground-to-ground and ground-to-air communications, utilizing UHF radio equipment. This set is intended for communication with other field units and aircraft having similar radio sets operating in the UHF band.</p> <p>Used with:</p> <p>Installation: Ground, fixed.</p>			<p>Type of reception and transmission: AM, voice, or MCW.</p> <p>Frequency range: 225 to 339.9 MC.</p> <p>Channels: 1750 spaced at 100 KC intervals.</p> <p>Preset channels: 10 crystal controlled.</p> <p>Power Input: 115 or 230 V, 50 to 60 CPS, single-phase.</p> <p>Power Output: 100 watts.</p> <p>Receiver: Triple-conversion superheterodyne with automatic tuning.</p> <p>Sensitivity: 1 watt output at not less than 10 db signal-to-noise ratio.</p> <p>Input impedance: 52 ohms.</p>	
<b>SIMILAR EQUIPMENTS</b>				
Radio Sets AN/GRC-27 and AN/GRC-29.				
<b>PHYSICAL CHARACTERISTICS</b>				
Unit	Overall Weight (in lbs)	Cubic Feet		
AN/GRC-48	758 (in 5 packages)	28.62 (crated)		

October 1961

Radio Set AN/GRC-48

## PUBLICATIONS

SIG M8, Headset MHS-11, Aug 56.  
SIG M8, Radio Set Control C-1335/TRC-32,  
May 57.  
SIG M8, Radio Set Control C-1336/TRC-32,  
May 57.  
SIG M8 SUPP, Antenna AS-390/SRC, Feb 57.  
SL-3-00052A, Radio Set AN/GRC-48, Jan 61.  
SL-3-00365A, Headset MHS-11, Jan 61.  
TO 31R2-2GRC27-12, SVC Radio Receivers  
R-278, A, B/GR, Dec 58.  
TO 31R2-2GRC-27-24, IPB Receiver Group  
OA-192/GR, Apr 58.

SL-4-00765, Antenna AS-390/SRC,  
AS-390A/SRC, Jul 60.  
SL-4-02381A, Mast AB-155A/U, Sep 60.  
SL-4-02436A, Transmitter T-217A/GR,  
Jul 60, and Ch 1 Feb 61.  
SL-4-02438A, Radio Receiver R-278B/GR,  
Dec 60.  
SL-4-02659A, Modulator Power Supply  
MD-129A/GR, Jul 60.

RADIO SET AN/GRC-48

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MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Alignment and testing of Radio Set Controls C-1335/TRC-32 and C-1336/TRC-32.	Multimeter: 0 to 35 ma.	TS-297/U	AN/PSM-4A	TO-NO16-35C1335-1, Sections 6-1 through 6-83.
	Microphone simulator: 600- to 40-ohms impedance transformation.	SC-B-3387 Signal Corps		
	Audio oscillator: 0 to 10,000 CPS.	1304A General Radio	LO-( )	
	Noise and distortion meter: 6%	1932(A) General Radio	TS-723/U*	
	Attenuator: 110 db in 1-db steps, 600 ohms input, 600 ohms output.	1450A General Radio		
	Output meters (2 required): -40 db to +26 db.	TS-585( )/U	ME-30( )/U	
	Transformer: Balanced-to-unbalanced line	912-17 Hewlett Packard		
Eput meter: 1000 CPS.	FR-67/U	AN/USM-122		
Alignment and testing of transmitter T-217A/GR and Modulator-Power Supply MD-129A/GR.	Frequency meter: 33 to 42 MC.	CM-77/USM	AN/URM-32	TO-16-350A104-3 paragraphs 6-1 through 6-56.
	VTVM: 10 to 25 VAC.	TS-505/U	ME-25A/U	
	Audio oscillator: 200 to 20,000 CPS.	TS-382( )/U	LO-( )	
	Attenuator: 600-ohm input, 600-ohm output.	1450 A General Radio		
	Multimeter: 0 to 30 VDC	TS-297/U	AN/PSM-4A	
* Non T/A item.				

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Radio Set AN/GRC-48

MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Alignment and testing of transmitter T-217A/GR and Modulator-Power Supply MD-129A/GR.	Noise and distortion meter: 5% to 11%	GR-1932A	TS-723/U*	TO-13-350A104-3 paragraphs 6-1 through 6-56.
	Output meter: -50 dbm	TS-585/U	ME-30/U	
	Phantom microphone:	SC-B-3387 Signal Corps		
	RF wattmeter: 25 watts.	Bird Model 67	AN/URM-43	
Organizational maintenance of Receiver R-278( )/GR	Signal generator: 2.05 to 49.9 MC.	AN/URM-25	LP-5*	TO-31R2-2GRC27-12, paragraphs 5-25 through 5-44.
	Signal generator: 225.5 to 385.5 MC.	AN/URM-26( )	TS-497/URR	
	VTVM: 0.45 to 15 VAC, 0.5 to 245 VDC.	TS-375A/U	ME-25( )/U TS-505/U	
Detailed minimum performance standards	Frequency meter: 225.5 to 385.5 MC.	AN/URM-81	AN/URM-32	TO-31R2-2GRC27-12, Table XV.
	Output meter: 30 db.	Daven OP-961	TS-585/U	
	Audio oscillator: 1000 CPS.	TS-382( )/U	LO-( )	
* Non T/A item.				

RADIO SET AN/GRC-48

Radio Set AN/GRC-48

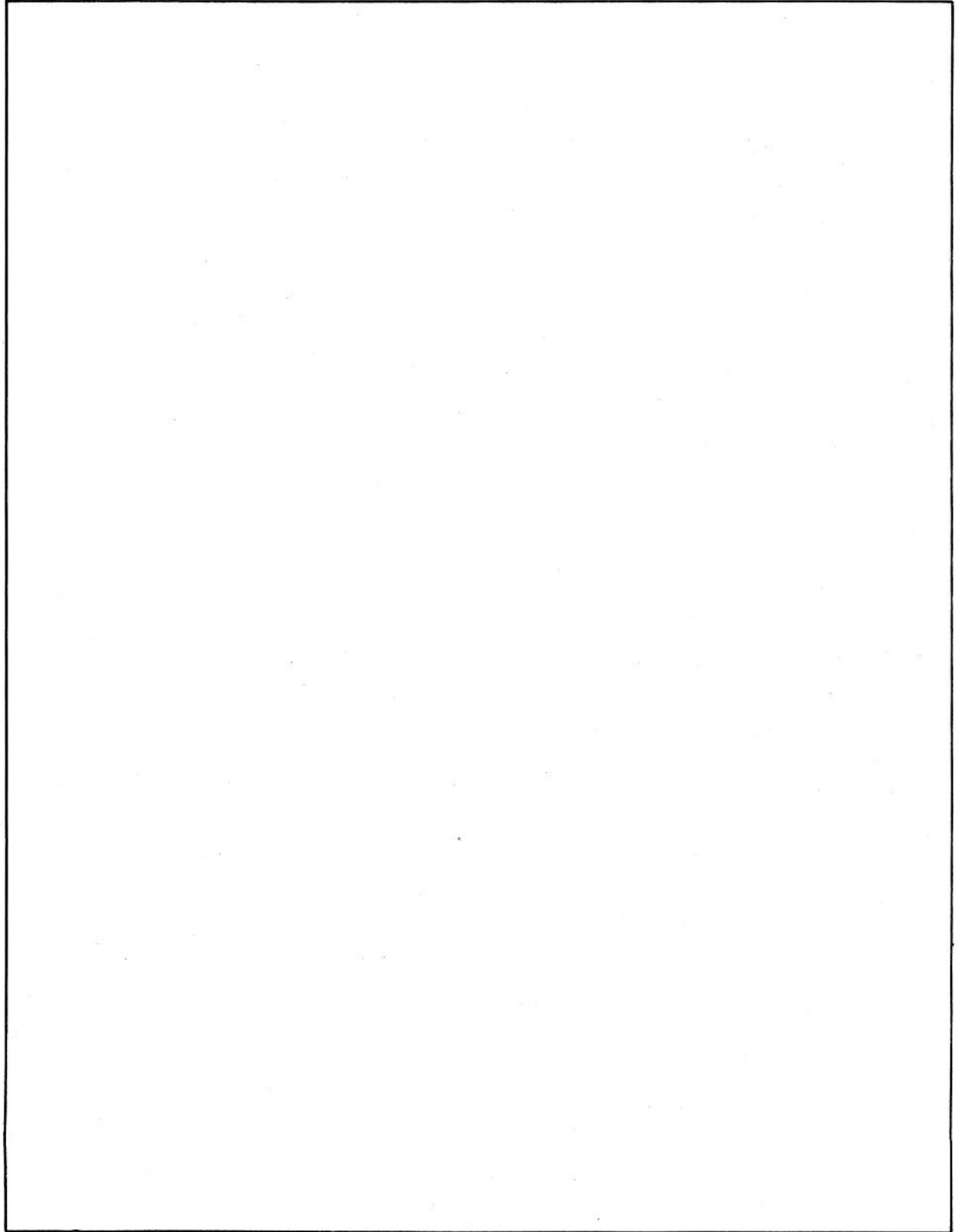
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EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
MCO 2005. 39 Sup 2: Standardization and correction of circuits.	MD-129A/GR Serial Number 3223 and higher.	Addition of resistor R-1475.
MCO 2005. 50 Sup 2: Instructions.	T-217/GR and T-217A/GR.	Instructions for the fabrication of an alignment tool.
MCO 2005. 50 Sup 3: Instructions.	T-217/GR, T-217A/GR, MD-129/GR, and MD-129A/GR.	Instructions to prevent high-voltage arc-over in modulation transformer T-1404.
MCO 2005. 50 Sup 4: Instructions.	T-217A/GR.	Instructions to make sure that all operators are aware of the correct employment of filament voltage control switch S-1204.
MCO 2005. 50 Sup 5: Modification of driver-amplifier tuner Z-503.	T-217A/GR.	Addition of a new support post in tuner Z-503.
MCO 2005. 50 Sup 6: To provide protection against destruction of the main oscillator oven.	T-217A/GR, R-278/GR, R-278A/GR, and R-278B/GR.	Capacitor C-206 replaced by new capacitor; 0.005 ufd, 1000 WV.

RADIO SET AN/48

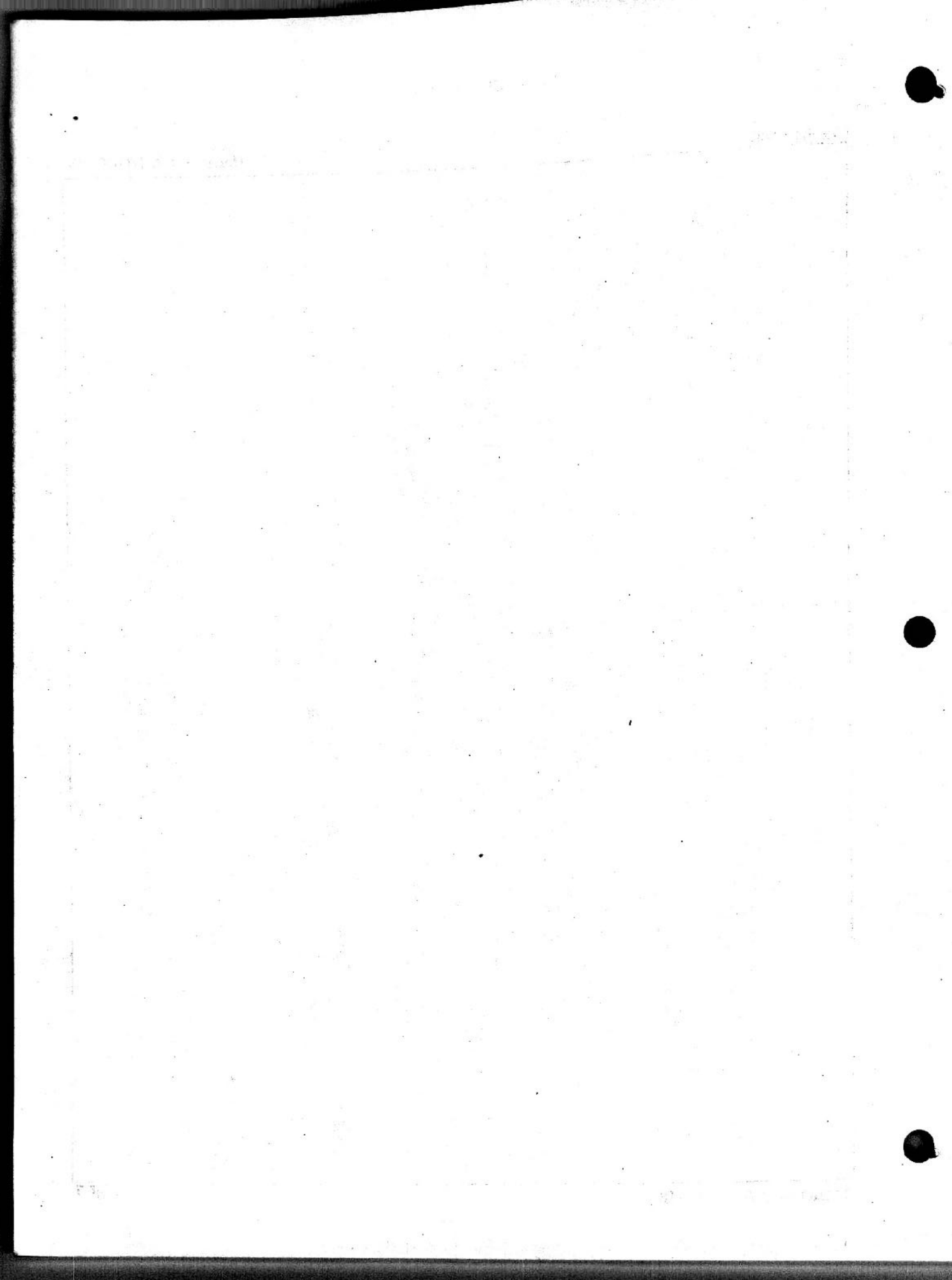
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Radio Set AN/GRC-48



RADIO SET AN/GRC-48



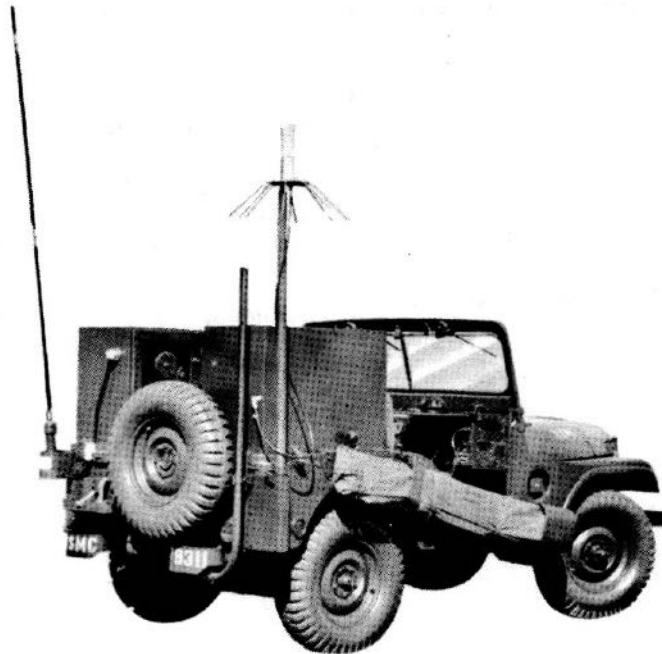


COMMUNICATIONS CENTRAL AN/MRC-35A

October 1961

Communications Central AN/MRC-35A

GENERAL DATA		MAJOR UNITS	
F. S. N:	5895-543-0582	(1)	Antenna Assembly AS-390/SRC
ID Number:	00066A	(1)	Antenna Mast Section MS-54
Function:	Provides homing facilities for aircraft, communications with aircraft during convoy movement, temporary airstrip control of rescue operations. The low-frequency radio equipment should not be used while the vehicle is in action.	(1)	Antenna Mast Section MS-49
		(1)	Antenna Mast
		(1)	Hand Ringing Generator G-42/PT
		(1)	Installation Kit Mk-327/MRC-35A
		(1)	Keyer KY-132/U
		(1)	Mast AB-370/G
		(1)	Mast Section MS-50
		(1)	Mast Section MS-51
		(1)	Mast Section MS-52
		(1)	Mast Section MS-53
		(2)	Radio Set Control Groups AN/GRA-11
		(1)	Radio Receiver BC-348-R or BC-348-Q
Manufacturer:	MCSC Albany Ga.	(1)	Receiver Transmitter RT-178/ARC-27
Contracts:	Order 54741	(2)	Antenna Reels RL-29
Approximate price:	\$8,700.00	(1)	Radio Frequency Tuner CU-25/ART-13
Recommended operational checkout interval:	<u>DAILY</u>	(1)	Utility Truck Model M-38A1

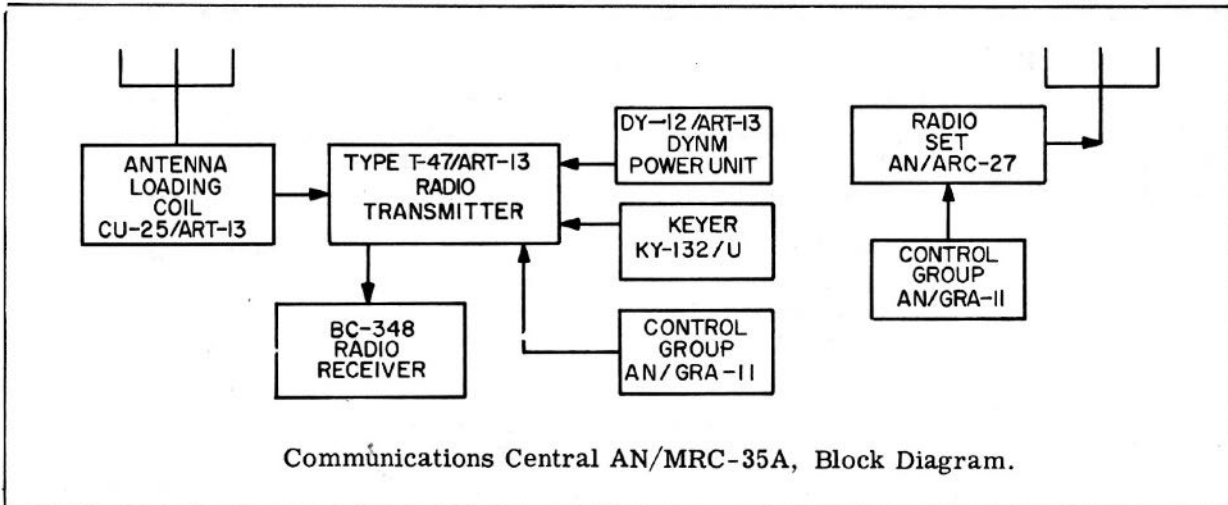


Communications Central AN/MRC-35A.

# COMMUNICATIONS CENTRAL AN/MRC-35A

Communications Central AN/MRC-35A

October 1961



OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS						
<p><b>Use:</b> Communications Central AN/MRC-35A is a mobile radio station for control of tactical aircraft operating in close support of ground forces. The mobile radio equipment will provide forward aircraft control by ground-to-air and ground-to-ground communications. The radio equipment is capable of net operation with standard AM low-, medium-, and high-frequency ground radio sets and UHF airborne radio sets.</p> <p><b>Used with:</b></p> <p><b>Installation:</b> Mobile.</p>	<p><b>Power requirement:</b> 28 VDC.</p> <p><b>Frequency range:</b>                      CU-25/ART-13: 200 to 600 KC.                      O-16/ART-13: 200 to 1500 KC.                      BC-348-Q and BC-348-R: 200 KC to 18 MCS, within 6 bands.                      T-47/ART-13: 200 to 600 KC, 2 to 18.1 MCS.                      RT-178/ARC-27: 225 to 399.9 MCS, within 1750 frequency channels.</p> <p><b>Emission and reception types:</b>                      BC-348-Q and BC-348-R: AM, CW, MCW.                      RT-178/ARC-27: AM, MCW.                      T-47/ART-13: AM, CW, MCW.</p> <p><b>Antennas:</b> Coaxial stub, long wire, whip.</p> <p><b>Batteries:</b>                      AN/GRA-6: Four BA-30, one BA-414/U.                      AN/GRA-11: Six BA-30 (for each control).                      MX-290/GV: One BA-200/U.</p>						
<b>SIMILAR EQUIPMENTS</b>							
Radio Sets AN/ARC-27, AN/ART-13, and Radio Receiver BC-348.							
<b>PHYSICAL CHARACTERISTICS</b>							
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">Unit</th> <th style="width: 35%;">Overall Weight (in lbs)</th> <th style="width: 50%;">Cubic Feet</th> </tr> </thead> <tbody> <tr> <td>AN/MRC-35A</td> <td style="text-align: center;">3865 (mounted in truck)</td> <td style="text-align: center;">414</td> </tr> </tbody> </table>	Unit	Overall Weight (in lbs)	Cubic Feet	AN/MRC-35A	3865 (mounted in truck)	414	
Unit	Overall Weight (in lbs)	Cubic Feet					
AN/MRC-35A	3865 (mounted in truck)	414					

Revised  
April 1962

## PUBLICATIONS

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| <p>LO 9-8014, Truck Utility 1/4 Ton 4 x 4, Mar 56.<br/>         NAVMC ELECT 2001, Keyer KY-132/U, Jun 54.<br/>         NAVMC ELECT 2020, Installation Kit Mk-327/MRC-35A, Jul 56.<br/>         NAVSHIPS 91338, Antenna Assembly AS-390/SRC, Jun 50.<br/>         RPL 00066A, Communications Central AN/MRC-35A, Dec 59.<br/>         RPL 00066A, Communications Central AN/MRC-35A, Feb 61, Ch 1.<br/>         RPL 00066A, Communications Central AN/MRC-35A, Nov 61, Ch 2.<br/>         RPL 00066A, Communications Central AN/MRC-35A, Mar 62, Ch 3.<br/>         SL-3-00066A, Communications Central AN/MRC-35A, May 60.<br/>         SL-3-00667A, Tool Kit Trk 3 Ech Fld M38A1 M170, Feb 62.<br/>         SL-3-00668A, Tool Kit Fld Maint 4 Ech Spcl Basic, Apr 60.<br/>         SL-3-00683A, Tool Kit Org Main 2 Ech Set B Basic, Jan 62.<br/>         SNL G-249 ORD8 V40, Winterization Equipment, Jan 55.<br/>         SNL G-758 ORD 8, Truck Utility 1/4 Ton 4 x 4, Mar 56.<br/>         SNL G-758 ORD 9, Truck Utility 1/4 Ton 4 x 4, Sep 56.<br/>         TB ORD 245, Std/Proced Dep O/Haul ORD Tank-Auto, Aug 61.<br/>         TB ORD 392, Int Lub New Rebuilt Gas Eng B Use, Sep 60.<br/>         TB ORD 460, Liq Cool Eng-Equip Clean-Drain Hole, Jul 52.<br/>         TB ORD 485, M Models Servicing Data Plate Corr, Jan 53.<br/>         TB ORD 524, Installed Metal Tanks Clean-Preserv, Jun 53.<br/>         TB ORD 616, Tact-Comm Mover-Trlrs Interveh Conn, Aug 56.<br/>         TB 9-248, Rubber Preserv Descript-Application, Sep 58.<br/>         TB 9-265, Discontinuance Red Paint Mk Lub Pts, Dec 58.<br/>         TB 9-282, Combat Veh Protect Insul Comm Equip, Sep 59.<br/>         TB 9-300-1/1, Combat Veh Insp Care Pres Dur Stor, May 60.</p> | <p>TB 9-300-1/1, Combat Veh Insp Care Pres Dur Stor, Nov 61, Ch 1.<br/>         TB 9-343, ORD Veh Install-Use Overhaul Plates, Apr 60.<br/>         TB 9-1859-20, Time Schedule Guide, Dec 53.<br/>         TB 9-1859-20, Time Schedule Guide, Ch 1.<br/>         TB 9-1870-1/1, Care Pneumatic Tires and Inner Tube, Jul 56.<br/>         TB 9-1870-1/2, Pneum Tires Tubes Flaps Inst Unserv, Feb 57.<br/>         TB 9-2300-228-20, Trouble Shoot F/Ins Cluster-Wiring, Jul 60.<br/>         TB 9-2855-43, Installation of Personnel Heater, Nov 56.<br/>         TM 9-207, Oper Maint Ordmatl in Extreme Cold, Sep 59.<br/>         TM 9-236, Military Tactical Vehicles, Sep 60.<br/>         TM 9-1825B, Electrical Equipment Auto-Lite, Nov 52.<br/>         TM 9-1826A, Carburetors, Dec 52.<br/>         TM 9-1827C, Brake-Misc Equip Wagner-Lockhead, Jan 53.<br/>         TM 9-1828A, Fuel Pumps, Dec 52.<br/>         TM 9-1828A, Fuel Pumps, Ch 1.<br/>         TM 9-1829A, Ord Maint Speedometers Tachometers, Apr 44.<br/>         TM 9-1870-1, Care and Maint of Pneumatic Tires, Feb 55.<br/>         TM 9-1870-1, Care and Maint of Pneumatic Tires, Ch 1.<br/>         TM 9-2320-209-20P, Organizational Repair Prts Sp Tools, Apr 59.<br/>         TM 9-2320-209-20P, Organizational Repair Prts Sp Tools, Ch 1.<br/>         TM 9-2853, Prep Ord Mtl F/Deep Water Fording, Jul 45.<br/>         TM 9-2853, Prep Ord Mtl F/Deep Water Fording, Ch 1.<br/>         TM 9-6140-200-15, Oper-Org F-D Main Stor Bat Lead-AC, Jul 58.<br/>         TM 9-8000, Principles of Automotive Vehicles Jan 56.<br/>         TM 9-8014, Oper-Org Maint 1/4 Ton 4 x 4 M38A1, Apr 55.<br/>         TM 9-8014, Oper-Org Maint 1/4 Ton 4 x 4 M38A1, Jun 58, Ch 3.<br/>         TM 9-8014, Oper-Org Maint 1/4 Ton 4 x 4 M38A1, Ch 4.<br/>         TM 9-8014, Oper-Org Maint 1/4 Ton 4 x 4 M38A1, Ch 5.</p> |
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Communications Central AN/MRC-35A

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TM 9-8015-1, Ord Maint Eng-Clutch 1/4T  
4 x 4, M38A1, Mar 54.

TM 9-8015-1, Ord Maint Eng-Clutch 1/4T  
4 x 4, M38A1, Apr 55, Ch 1.

TM 9-8015-2, Ord Maint Pwr Tr Body-Fend  
1/4T 4 x 4, Aug 54.

TM 9-8015-2, Ord Maint Pwr Tr Body-Fend  
1/4T 4 x 4, Ch 1.

TM 9-8015-2, Ord Maint Pwr Tr Body-Fend  
1/4T 4 x 4, Ch 2.

TM 9-8627, Electrical Equipment Delco-  
Remy, Jun 53.

TM 9-8627, Electrical Equipment Delco-  
Remy, Ch 1.

TM 9-8662, Fuel Burn Heat F/Winter  
Equipment, Mar 54.

TM 10-500-10, Air Dly of Sup-Equip Rig  
M38A1, Apr 58.

TM 10-500-10 Air Dly of Sup-Equip Rig  
M38A1, Ch 1.

TM 10-500-10, Air Dly of Sup-Equip Rig  
M38A1, Ch 2.

TM 11-692E, Radio Receivers BC-348-H,  
K, L, R, May 55.

TM 11-2632, Remote Control Equip RC-261,  
Oct 44.

TM 11-5038, Control Group AN/GRA-6,  
Apr 51.

TM 11-5038, Control Group AN/GRA-6,  
Dec 54, Ch 1.

TM 11-5038, Control Group AN/GRA-6, Ch 2

TM 21-300, Driver Selection and Training,  
Dec 58.

TM 21-305, Manul F/Whl Vehicle Driver,  
Dec 56.

TM 21-305, Manual F/Whl Vehicle Driver.

TM 11240-1, USMC TM Tactical Mt Veh  
Prev Maint, Feb 61.

MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Organizational maintenance	Signal generator: 225 to 3990 MC	Hewlett Packard 608B	AN/URM-26	TO-12R2-2ARC27-42, paragraphs 5-1 through 5-27.
	VTVM: 0 to 10 VDC	TS-375/U	TS-505/U	
	Output meter: 250 to 500 MW.	General Radio Type 583-A	TS-585C/U	
	Audio oscillator: 1000 CPS	TS-382A/U	LO-3	
AN/ARC-27 alignment procedure and final adjustments	Oscilloscope	OS-8 ( )/U	OS-10/U	TO-12R2-2ARC27-42, paragraphs 6-42 through 6-88.
	Multimeter: 27.5 to 440 VDC	AN/PSM-4A	TS-352 ( )/U	
	VTVM: 1 to 7 VDC and 0 to 10 VAC	TS-375/U	ME-25/U TS-505/U	
	Frequency meter: 21.2 to 364.2 MC	LM-18	AN/USM-16	
	Signal generator: 19.4 to 399.9	HP608B	AN/URM-26	
	Signal generator: 3.45 to 5.7 MC	AN/URM-25	*LP-5	
Keyer KY-132/U operator's maintenance	No special tools or equipment required.			NAVMC ELECT-2001, section 5.
Keyer KY-132/U trouble shooting and repair	Multimeter: 0 to 28 VDC	AN/PSM-4A	TS-352 ( )/U	NAVMC ELECT-2001, section 7-1.
Control Group AN/GRA-11 maintenance	Multimeter: 50 to 800 ohms and 0 to 1.5 VDC	AN/PSM-4A	TS-352 ( )/U	TM 11-2632, section IV.
BC-348 maintenance	Signal generator: 200 KC to 18.0 MC	AN/URM-25( )	*LP-5	TM 11-692E, section V, paragraphs 5-1 through 5-4.
	Audio oscillator: 400 CPS	TS-382 ( )/U	LO-3	
	Multimeter: 0 to 210 VDC and 6.3 VAC	AN/PSM-4 ( )	TS-352/U	
	*Non T/A item			

COMMUNICATIONS CENTRAL AN/MRC-35A

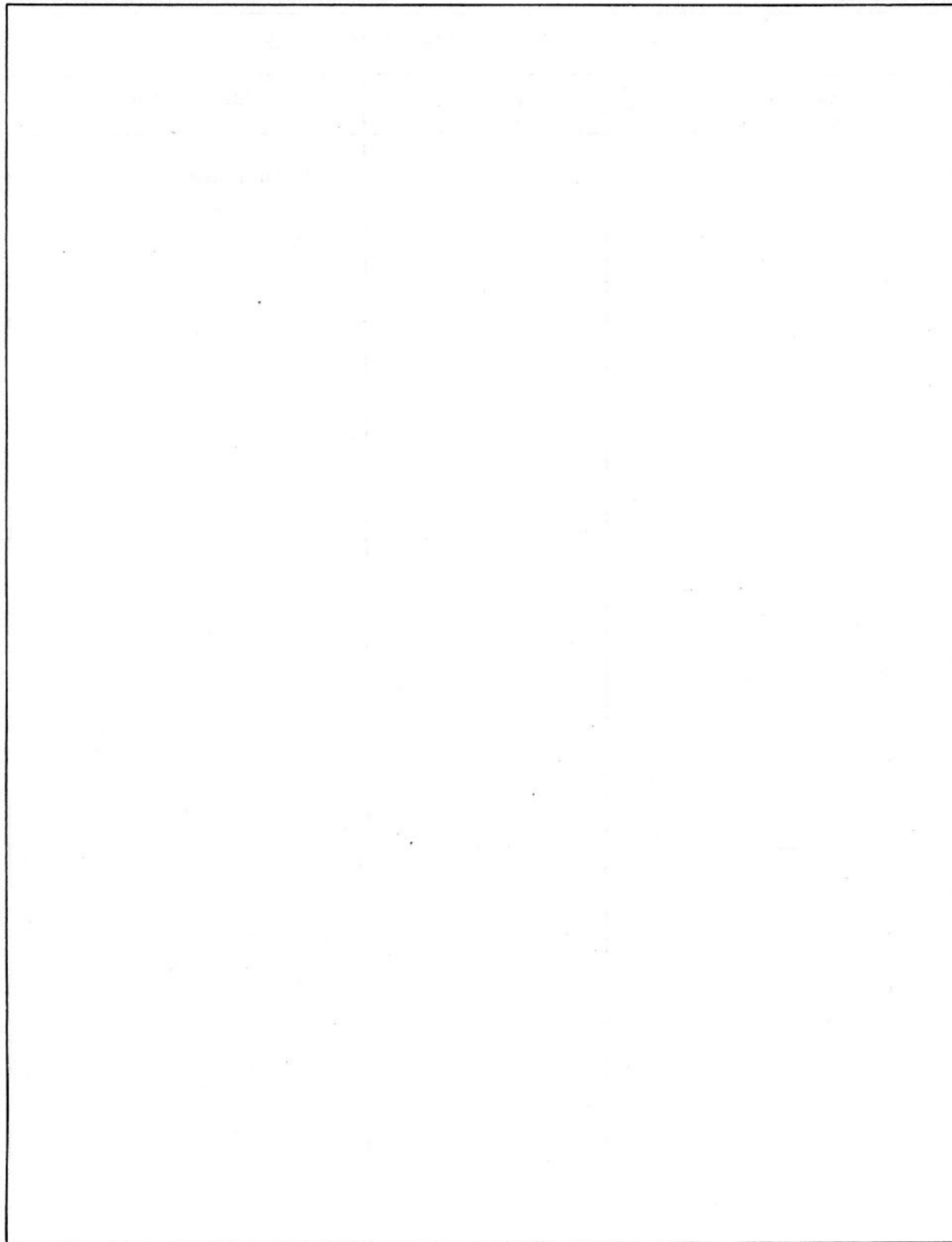
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MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
AN/ARC-27 Organizational maintenance	Milliammeter 15 to 450 ma. D. C.	TS-80/U	ME-29/U	TO-12R2-2ARC27-42, paragraphs 5-1 through 5-27.
	Wattmeter: 9 watts	Bird Model 43	ME-11/U AN/URM-43	
AN/ARC-27 Alignment procedure and final adjustments	Output meter: 250 to 500 MW	General Radio Type 608B	TS-585/U	TO-12R2-2ARC27-42, paragraphs 6-42 through 6-88.
AN/ART-13 maintenance	Frequency meter: 5400 to 16,435 KC	LM-18	AN/URM-32	AN 03-30ART13-5, section V, paragraphs 5 through 7.
	Oscilloscope	OS-8 ( )/U	OS-10/U	
	VTVM (3 required) 0 to 10 VDC	TS-505/U	ME-25A/U	
	* Non T/A item.			

EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
		None authorized.



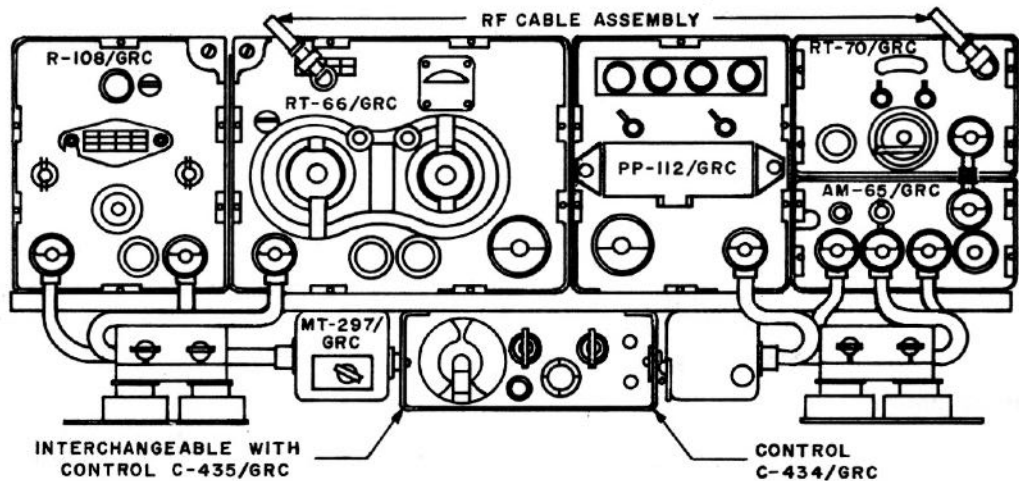
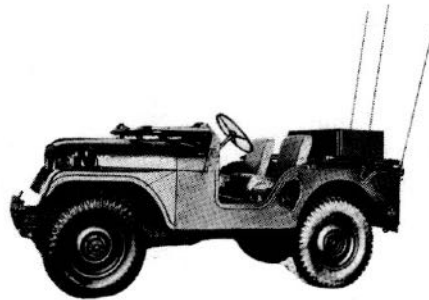


RADIO SETS AN/MRC-36, AN/MRC-37, AND AN/MRC-38

October 1961

Radio Set AN/MRC-36

GENERAL DATA	MAJOR UNITS
<p>F. S. N: 5820-665-1224                      ID Number: 00067A                      Function: Two-way voice communications.                      Manufacturer: MCSC, Albany, Ga.                      MCSC, Barstow, Calif.                      Contracts: Albany No. 54711,                      Barstow No. 54739,                      54710, 54-706-Job 3.                      Approximate price: \$4,900.00                      Recommended operational checkout interval: <u>DAILY</u></p>	<p>(1) Receiver-Transmitter RT-66/GRC                      (1) Receiver-Transmitter RT-70/GRC or RT-70A/GRC                      (1) Mast Base MP-65B                      (1) Power Supply PP-112/GRC                      (1) Radio Receiver R-108/GRC                      (1) AF Amplifier AM-65/GRC                      (1) Antenna Element MS-116                      (1) Antenna Element MS-117                      (1) Antenna Element MS-118                      (3) Chest Set AN/GSA-6                      (3) Microphone Headset H-63E/U                      (1) Permanent Magnet Loudspeaker LS-166/U                      (1) Mounting MT-297/GR                      (1) Control Box C-375/VRC                      (1) Radio Set Control AN/GRA-6                      (1) Radio Set Control C-435/GRC</p>



Radio Set AN/MRC-36.

RADIO SETS AN/MRC-36, AN/MRC-37, AND AN/MRC-38

Radio Set AN/MRC-36

October 1961

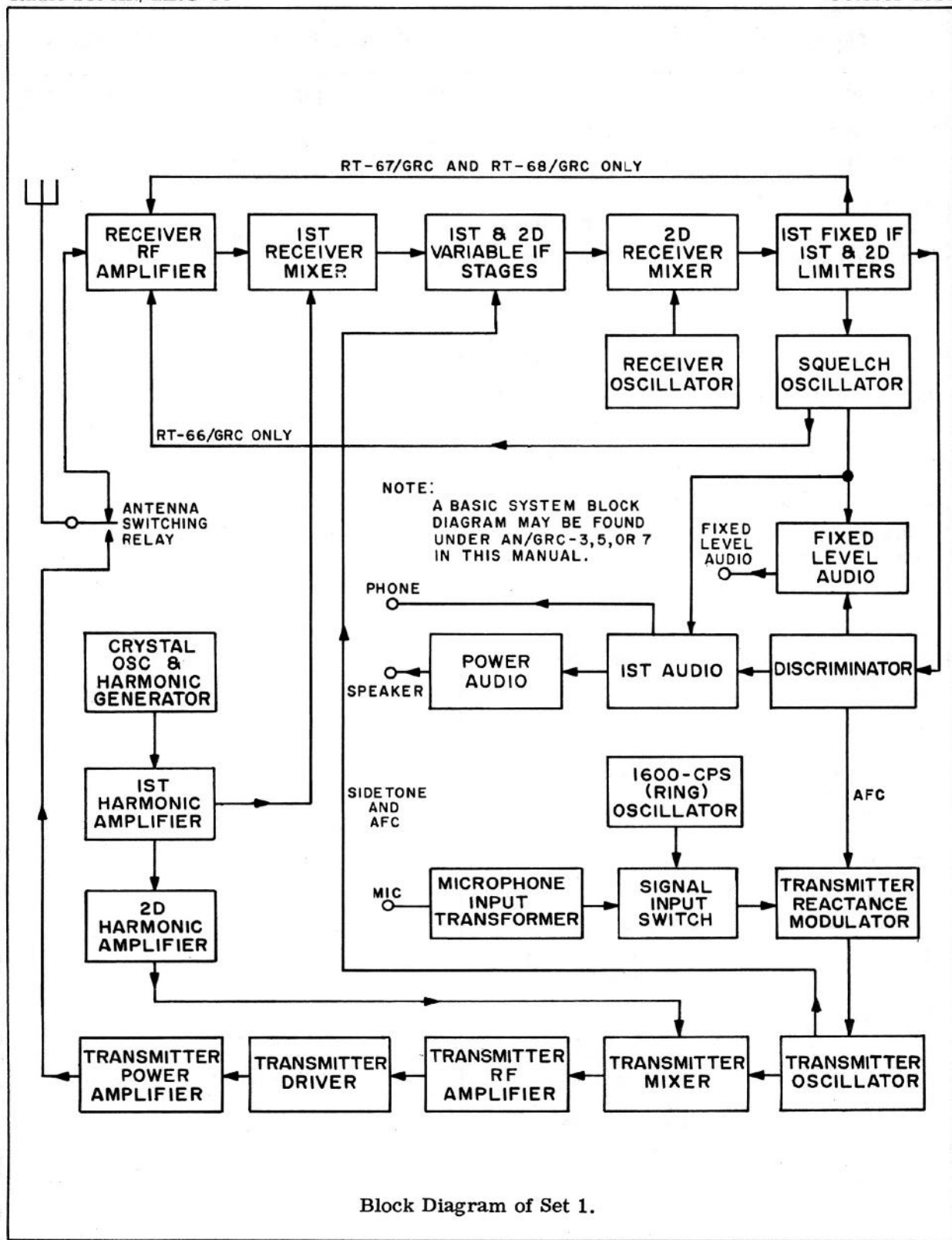
OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS
<p>Use: Radio Set AN/MRC-36 is basically Radio Set AN/GRC-3 installed in truck M38A1. Radio Set AN/MRC-36 provides frequency-modulated radiotelephone communications within a set frequency range. The set is designed primarily for short-range operation within and between armored, artillery, and infantry units.</p> <p>Used with:</p> <p>Installation: Mobile.</p>	<p>Type of receiver: Double conversion superheterodyne.</p> <p>Receiver audio power output:                      Loudspeaker: 800 mw.                      Handset: 50 mw.                      Fixed level: 20 mw.</p> <p>Receiver audio output impedance: 600 ohms.</p> <p>Receiver sensitivity: 25 uv.</p> <p>RT-70/GRC or RT-70A/GRC</p>
<p>SIMILAR EQUIPMENTS</p>	
<p>Radio Sets AN/GRC-5, AN/GRC-7, AN/MRC-37, and AN/MRC-38, except for frequency range.</p>	<p>Type of transmission and reception: FM, voice.</p> <p>Frequency range: 47 to 58.4 MC.</p> <p>Type of tuning: Continuous.</p>
<p>TECHNICAL CHARACTERISTICS</p>	<p>Preset detent channels: 2.</p>
<p>RT-66/GRC</p> <p>Type of transmission and reception: FM, voice and 1600-cycle ringing tone.</p> <p>Frequency range: 20 to 27.9 MC.</p> <p>Type of tuning: Choice of detent, preset channels, or continuous tuning.</p> <p>Detent channels available: 80.</p> <p>Preset detent channels: 2.</p> <p>Channel spacing: 100 KC.</p> <p>Communication range: Vehicles in motion, 10 miles.                      Stationary, 15 miles.</p> <p>Transmitter power output: High, 16 watts.                      Low, 2 watts.</p> <p>Transmitter audio input impedance: 150 ohms.</p>	<p>Channel spacing: 100 KC.</p> <p>Communication range: 1 mile.</p> <p>Transmitter power output: 500 mw.</p> <p>Transmitter audio input impedance: 150 ohms at 1000 CPS.</p> <p>Type of receiver: Double conversion superheterodyne.</p> <p>Receiver audio output power: 75 mw for <math>\pm 15</math> KC deviation at 1000 CPS.</p> <p>Receiver audio output impedance: 600 ohms.</p> <p>Receiver sensitivity: 25 db signal-to-noise ratio at 1.0 uv <math>\pm 15</math> KC deviation at 1000 CPS.</p> <p>PP-282/GRC</p> <p>Input power: 20 to 32 VDC at 1.23 amp maximum.</p> <p>Output power: 135 VDC at 0.118 amp.</p>

RADIO SETS AN/MRC-36, AN/MRC-37, AND AN/MRC-38

October 1961

Radio Set AN/MRC-36

TECHNICAL CHARACTERISTICS	OPERATIONAL CHARACTERISTICS		
PP-112/GR	Unit	Overall Weight (in lbs)	Cubic Feet
Input power: 25.2 VDC at 7.0 amp.	AN/MRC-36	3865 (mounted in 1/4-ton 4 x 4 truck M38A1)	360
R-108/GRC			
Receiver type: FM, single conversion superheterodyne.			
Frequency range: 20 to 28 MC.			
Sensitivity: Over 25 db signal plus noise-to-noise ratio at 1/2 uv, deviation $\pm 15$ KC, 1000 CPS.			
Type of tuning: Continuously variable and detent selection of three preset frequencies.			
Channel spacing: 100 KC.			
Audio output: Loudspeaker: 500 mw. Earphones: 40 mw. Fixed level: 20 mw $\pm 3$ mw.			
Audio output impedance: 600 ohms unbalanced.			
AM-65/GRC			
Input impedance: RT-66/GRC inter-phone channel: 1500 ohms.			
RT-70/GRC or RT-70A/GRC inter-phone channel: 1500 ohms.			
RT-66/GRC and RT-70/GRC or RT-70A/GRC inter-phone channel: 150 ohms.			
Output impedance: 150 and 600 ohms (adjustable).			
AF response: Flat to within 4 db for frequencies between 400 and 2500 cycles w/sharp cut-off beyond these limits.			



Block Diagram of Set 1.

Revised  
April 1962

Radio Sets AN/MRC-36

PUBLICATIONS

<p>D/L VOL II, Radio Set AN/MRC-36, Mar 58. LO 9-8014, Truck Utility 1/4 Ton 4x4, Mar 56. NAVMC ELECT 2012, Installation Kit Mk-145A/MRC, Feb 55. SIG M8, Case, Radio Set CY-731B/MRC, Mar 55. SIG M8, Case, Radio Set CY-732/MRC, Mar 55. SIG M8, Installation Kit Mk-145/MRC, Sep 53. SIG M8, Installation Kit Mk-145A/MRC, Oct 55. SIG M8, Radio Set AN/MRC-36, Jan 58. SIG M8 SUPP, Mounting MT-297/GR, Feb 57. SIG M8 SUPP, Mounting MT-297/GR, Jan 58, Ch 3. SIG 7-8, Headset Microphone H-63/U, Apr 57. SIG 7-8, Headset Microphone H-63/U, Mar 58, Ch 2. SIG 7-8, Headset Microphone H-63/U, Mar 59, Ch 3. SIG 7-8, Mast Base MP-65-A, B, Feb 58. SIG 7-8, Mounting MT-297/GR, Oct 56. SIG 7-8, Mounting MT-297/GR, Feb 57, Ch 1. SIG 7-8, Mounting MT-297/GR, Jan 58, Ch 3. SIG 7-8, Mounting MT-297/GR, Feb 60, Ch 4. SIG 7-8, Radio Receiver R-108/GRC, Nov 56. SIG 7-8, Radio Receiver R-108/GRC, Oct 57, Ch 1. SIG 7-8, Radio Sets AN/GRC-3, AN/GRC-3X, Sep 57. SL-3-00044A, Control Group AN/GRA-6, Sep 61. SL-3-00667A, Tool Kit Trk 3 Ech Fld M38A1 M170, Feb 62. SL-3-00668A, Tool Kit Fld Maint 4 Ech Spcl Basic, Apr 60. SL-3-00683A, Tool Kit Org Main 2 Ech Set B Basic, Jan 62. SL-4-00044A, Control Group AN/GRA-6, Aug 60. SL-4-00044A, Control Group AN/GRA-6, Jun 61, Ch 1. SL-4-00044A, Control Group AN/GRA-6, Jan 62, Ch 2. SL-4-02469, Receiver Transmitters RT-70A, B/GRC, Jan 61. SL-4-02907A, Receiver Transmitter RT-66/GRC, Dec 60.</p>	<p>SNL G-249 ORD 8 V40, Winterization Equipment, Jan 55. SNL G-758, ORD 8, Truck Utility 1/4 Ton 4x4, Mar 56. SNL G-758 ORD 9, Truck Utility 1/4 Ton 4x4, Sep 56. TB ORD 245 STD/Proced Dep O/Haul ORD Tank Auto, Aug 61. TB ORD 392, Int Lub New Rebuilt Gas Eng B Use, Sep 60. TB ORD 460, Liq Cool Eng-Equip Clean-Drain Hole, Jul 52. TB ORD 485, M Models Servicing Data Plate Corr, Jan 53. TB ORD 524, Installed Metal Tanks Clean-Preserv, Jun 53. TB ORD 616, Tact-Comm Mover-Trlrs Interveh Conn, Aug 56. TB 9-248, Rubber Preserv Descript-Application, Sep 58. TB 9-265, Discontinuance Red Paint Mk Lub Pts, Dec 58. TB 9-282, Combat Veh Protect Insul Comm Equip, Sep 59. TB 9-300-1/1, Combat Veh Insp Care Pres Dur Stor, May 60. TB 9-300-1/1, Combat Veh Insp Care Pres Dur Stor, Nov 61, Ch 1. TB 9-343, ORD Veh Install-Use Overhaul Plates, Apr 60. TB 9-1859-20, Time Schedule Guide, Dec 53. TB 9-1859-20, Time Schedule Guide, Ch 1. TB 9-1870-1/1, Care Pneumatic Tires and Inner Tube, Jul 56. TB 9-1870-1/2, Pneum Tires Tubes Flaps Inst Unserv, Feb 57. TB 9-2300-228-20, Trouble Shoot F/Ins Cluster-Wiring, Jul 60. TB 9-2855-43, Installation of Personnel Heater, Nov 56. TM 9-207, Oper Maint Ordmatl in Extreme Cold, Sep 59. TM 9-236, Military Tactical Vehicles, Sep 60. TM 9-1825B, Electrical Equipment Auto-Lite, Nov 52. TM 9-1826A, Carburetors, Dec 52. TM 9-1827C, Brake-Misc Equip Wagner-Lockhead, Jan 53. TM 9-1828A, Fuel Pumps, Dec 52. TM 9-1828A, Fuel Pumps, Ch 1.</p>
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RADIO SETS AN/MRC-36, AN/MRC-37, AND AN/MRC-38

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April 1962

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TM 9-1829A, ORD Maint Speedometers Tachometers, Apr 44.	TM 11-284, Radio Sets AN/GRC-3-4-5-6-7-8, Feb 54, Ch 1.
TM 9-1870-1, Care and Maint of Pneumatic Tires, Feb 55.	TM 11-284, Radio Sets AN/GRC-3-4-5-6-7-8, Mar 58, Ch 6.
TM 9-1870-1, Care and Maint of Pneumatic Tires, Ch 1.	TM 11-289, Receiver-Transmitter RT-66-67-68/GRC, Dec 53.
TM 9-2320-209-20P, Organizational Repair Prts Sp Tools, Apr 59.	TM 11-289, Receiver Trans RT-66, 67, 68/GRC, Apr 55, Ch 1.
TM 9-2320-209-20P, Organizational Repair Prts Sp Tools, Ch 1.	TM 11-289, Receiver Trans RT-66, 67, 68/GRC, Ch 2.
TM 9-2853, Prep ORD Mtl F/Deep Water Fording, Jul 45.	TM 11-289, Receiver Trans RT-66, 67, 68/GRC, Mar 57, Ch 4.
TM 9-2853, Prep ORD Mtl F/Deep Water Fording, Ch 1.	TM 11-290, Receiver Transmit RT-70, A, B/GRC, Feb 57.
TM 9-6140-200-15, Oper-Org F-D Main Stor Bat Lead-AC, Jul 58.	TM 11-290, Receiver Transmit RT-70, A, B/GRC, Dec 57, Ch 1.
TM 9-8000, Principles of Automotive Vehicles, Jan 56.	TM 11-290, Receiver Transmit RT-70, A, B/GRC, Apr 58, Ch 2.
TM 9-8014, Oper-Org Maint 1/4 Ton 4x4 M38A1, Apr 55.	TM 11-898, Radio Receiver R-108, 109, 110/GRC, Jan 56.
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TM 9-8014, Oper-Org Maint 1/4 Ton 4x4 M38A1, Ch 4.	TM 11-898, Radio Receivers R-108, 109, 110/GRC, Jun 57, Ch 2.
TM 9-8014, Oper-Org Maint 1/4 Ton 4x4 M38A1, Ch 5.	TM 11-898, Radio Receivers R-108, 109, 110/GRC, Oct 60, Ch 5.
TM 9-8015-1, ORD Maint Eng-Clutch 1/4T 4x4 M38A1, Mar 54.	TM 11-5036, PWR Supplies PP-109, A PP-112, A/GR, Dec 54.
TM 9-8015-1, ORD Maint Eng-Clutch 1/4T 4x4 M38A1, Apr 55, Ch 1.	TM 11-5036, PWR Supplies PP-109, A PP-112, A/GR, Ch 1.
TM 9-8015-2, ORD Maint PWR Tr Body-Fend 1/4T 4x4, Aug 54.	TM 11-5036, PWR Supplies PP-109, A PP-112, A/GR, Ch 2.
TM 9-8015-2, ORD Maint PWR Tr Body-Fend 1/4T 4x4, Ch 1.	TM 11-5036, PWR Supplies PP-109, A PP-112, A/GR, Ch 3.
TM 9-8015-2, ORD Maint PWR Tr Body-Fend 1/4T 4x4, Ch 2.	TM 11-5038, Control Group AN/GRA-6, Apr 51.
TM 9-8627, Electrical Equipment Delco-Remy, Jun 53.	TM 11-5038, Control Group AN/GRA-6, Dec 54, Ch 1.
TM 9-8627, Electrical Equipment Delco-Remy, Ch 1.	TM 11-5038, Control Group AN/GRA-6, Ch 2.
TM 9-8662, Fuel Burn Heat F/Winter Equipment, Mar 54.	TM 11-5039, A-F Amplifier AM-65, A/GRC, Jan 51.
TM 10-500-10, Air Dly of Sup-Equip Rig M38A1, Apr 58.	TM 11-5039, A-F Amplifier AM-65, A/GRC, Aug 52, Ch 1.
TM 10-500-10, Air Dly of Sup-Equip Rig M38A1, Ch 1.	TM 11-5039, A-F Amplifier AM-65, A/GRC, Oct 53, Ch 2.
TM 10-500-10, Air Dly of Sup-Equip Rig M38A1, Ch 2.	TM 11-5039, A-F Amplifier AM-65, A/GRC, Mar 58, Ch 3.
TM 11-284, Radio Sets AN/GRC-3, 4, 5, 6, 7, 8, May 53.	TM 11-5040, PWR Supplies PP-281, A PP-282, A/GRC, Nov 50.

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Radio Sets AN/MRC-36

## PUBLICATIONS

<p>TM 11-5040, PWR Supp PP-281, A PP-282, A/GRC, Dec 51, Ch 1. TM 11-5040, PWR Supplies PP-281, A PP-282, A/GRC, Ch 2. TM 11-5820-210-10P, PWR Supplies PP-281, A, PP-282, A/GRC, Feb 60. TM 11-5820-210-20P, PWR Supplies PP-281, A PP-282, A/GRC, Feb 60. TM 11-5820-210-35P, PWR Supplies PP-281, A PP-282, A/GRC, Feb 60. TM 11-5820-234-12P, Radio Set Control C-435/GRC, Nov 58. TM 11-5820-234-35P, Radio Set Control C-435/GRC, Jan 59. TM 11-5820-281-10P, A F Amplifier AM-65, A/GRC, May 59. TM 11-5820-281-20P, A F Amplifier AM-65, A/GRC, May 59. TM 11-5820-281-35P A F Amplifier AM-65, A/GRC, May 59. TM 11-5830-203-12P, Intercom Set Control C-375/VRC, Dec 58.</p>	<p>TM 11-5830-203-35P, Intercom Set Control C-375/VRC, Jan 59. TM 11-5965-225-12P, Chest Set Group AN/GSA-6, Apr 59. TM 11-5965-225-35P, Chest Set Group AN/GSA-6, Apr 59. TM 11-6130-208-10P, Power Supplies PP-112, A/GR, Jul 59. TM 11-6130-208-20P, Power Supplies PP-112, A/GR, Jul 59. TM 11-6130-208-35P, Power Supplies PP-112, A/GR, Jul 59. TM 21-300, Driver Selection and Training, Dec 58. TM 21-305, Manual F/Whl Vehicle Driver, Dec 56. TM 21-305, Manual F/Whl Vehicle Driver, Ch 1. TM 11240-1, USMC TM Tactical Mt Veh Prev Maint, Feb 61.</p>
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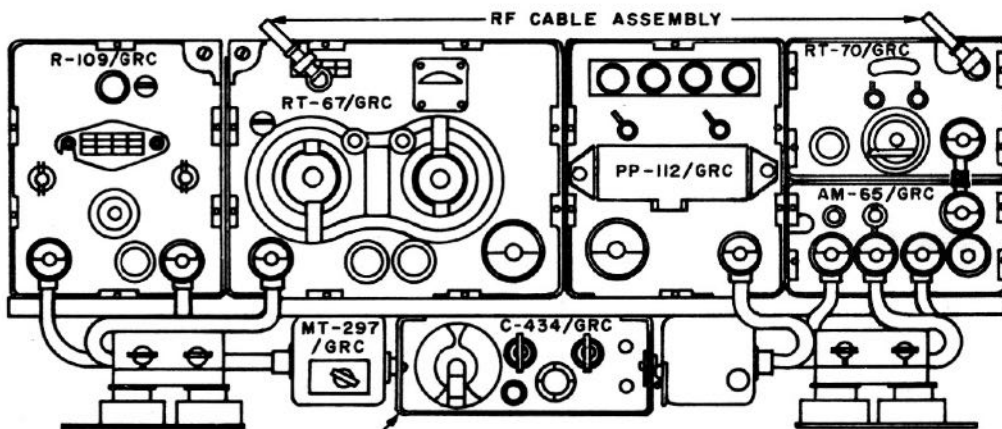
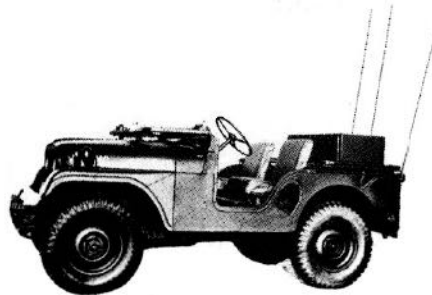


RADIO SETS AN/MRC-36, AN/MRC-37, AND AN/MRC-38

Radio Set AN/MRC-37

October 1961

GENERAL DATA	MAJOR UNITS
<p>F. S. N: 5820-644-0931                      ID Number: 00068A                      Function: Two-way voice communications.                      Manufacturer: MCSC, Albany, Ga.                      MCSC, Barstow, Calif.                      Contracts: Albany No. 54706,                      54705, Job 11,                      1-0027                      Barstow No. 54705,                      54706, Job 3,                      1-0028.                      Approximate price: \$5,500.00                      Recommended operational checkout interval: <u>DAILY</u></p>	<ul style="list-style-type: none"> <li>(1) Receiver-Transmitter RT-67/GRC</li> <li>(1) Receiver-Transmitter RT-70/GRC or RT-70A/GRC</li> <li>(1) Mast Base MP-65B</li> <li>(1) Power Supply PP-112/GR</li> <li>(1) Radio Receiver R-109/GRC</li> <li>(1) AF Amplifier AM-56/GRC</li> <li>(1) Antenna Element MS-116</li> <li>(1) Antenna Element MS-117</li> <li>(1) Antenna Element MS-118</li> <li>(3) Chest Set AN/GSA-6</li> <li>(3) Microphone Headset H-63E/U</li> <li>(1) Permanent Magnet Loudspeaker LS-166/U</li> <li>(1) Mounting MT-297/GR</li> <li>(1) Control Box C-375/VRC</li> <li>(1) Radio Set Control AN/GRA-6</li> <li>(1) Radio Set Control C-435/GRC</li> </ul>



Radio Set AN/MRC-37.

RADIO SETS AN/MRC-36, AN/MRC-37, AND AN/MRC-38

October 1961

Radio Set AN/MRC-37

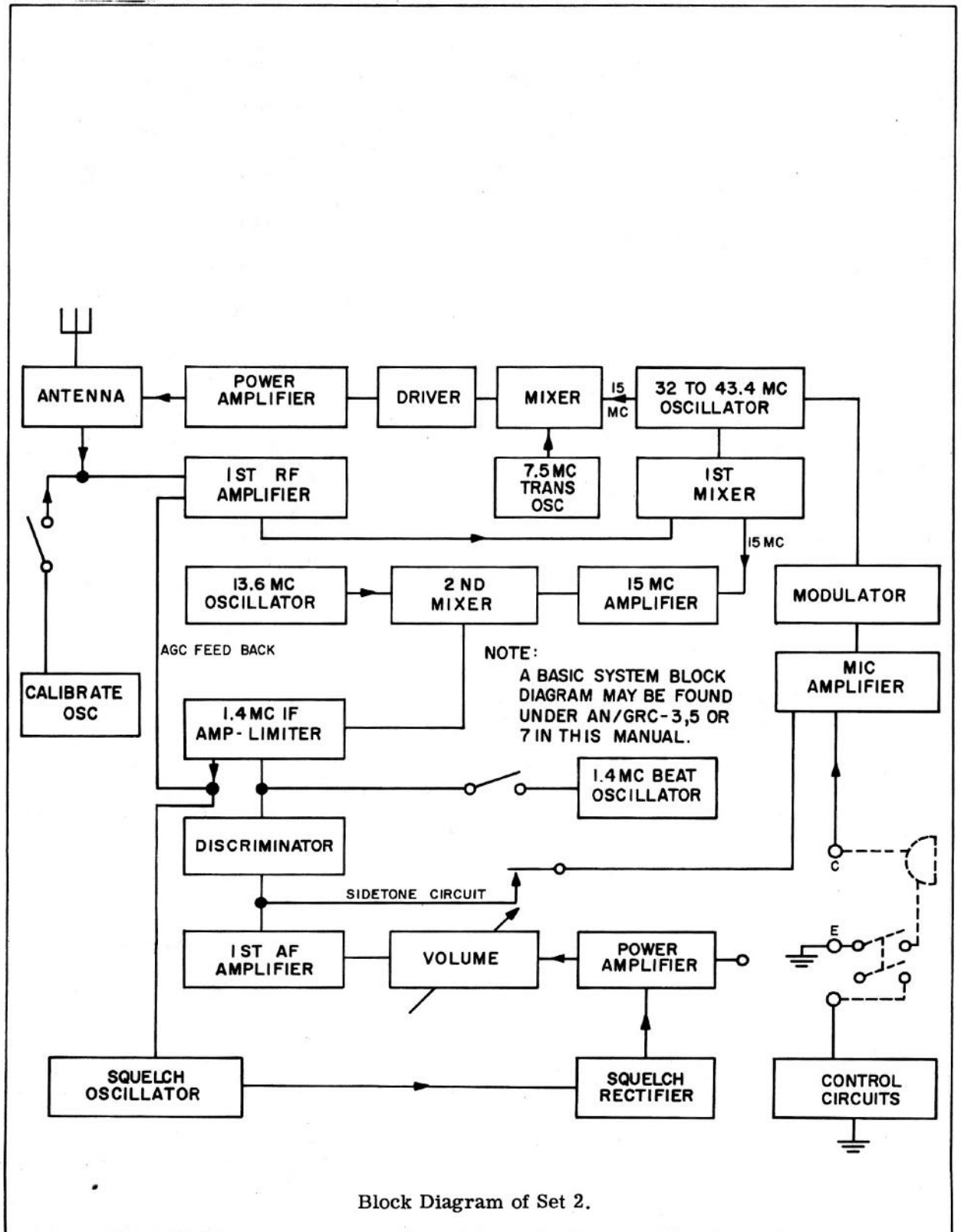
OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS	
<p>Use: Radio Set AN/MRC-37 is basically Radio Set AN/GRC-5 installed in truck M38A1. Radio Set AN/MRC-37 provides frequency-modulated radiotelephone communications within a set frequency range. The set is designed primarily for short-range operation within and between armored, artillery, and infantry units.</p> <p>Used with:</p> <p>Installation: Mobile.</p>	<p>Type of tuning:</p> <p>Detent channels available:</p> <p>Preset detent channels:</p> <p>Channel spacing:</p> <p>Communication range:</p>	<p>Choice of detent or preset channels or continuous tuning.</p> <p>120.</p> <p>2.</p> <p>100 KC.</p> <p>Vehicles in motion, 10 miles. Stationary 15 miles.</p>
<p>SIMILAR EQUIPMENTS</p>		
<p>Radio Sets AN/GRC-3, AN/GRC-7, AN/MRC-36, and AN/MRC-38 except for frequency range.</p>	<p>Transmitter power output:</p> <p>High, 16 watts; Low, 2 watts.</p>	
<p>TECHNICAL CHARACTERISTICS</p>		
<p>R-109/GRC</p> <p>Receiver type: FM, single conversion superheterodyne.</p> <p>Frequency range: 27 to 39 MC.</p> <p>Sensitivity: Over 25 db signal plus noise-to-noise ratio at 1/2 uv, deviation <math>\pm 15</math> KC, 1000 CPS.</p> <p>Type of tuning: Continuously variable and detent selection of three preset frequencies.</p> <p>Channel spacing: 100 KC.</p> <p>Audio output: Loudspeaker: 500 mw. Earphones: 40 mw. Fixed level: 20 mw.</p> <p>Audio output impedance: 600 ohms unbalanced.</p>	<p>Type of receiver: Double conversion superheterodyne.</p> <p>Receiver audio power output: Loudspeaker: 800 mw. Handset: 50 mw. Fixed level: 20 mw.</p> <p>Receiver audio output impedance: 600 ohms.</p> <p>Receiver sensitivity: 25 uv.</p>	
<p>RT-67/GRC</p> <p>Type of transmission and reception: FM, voice, and 1600-cycle ringing tone.</p> <p>Frequency range: 27 to 38.9 MC.</p>	<p>RT-70/GRC or RT-70A/GRC</p> <p>Type of transmission and reception: FM, voice.</p> <p>Frequency range: 47 to 58.4 MC.</p> <p>Type of tuning: Continuous.</p> <p>Preset detent channels: 2.</p> <p>Channel spacing: 100 KC.</p> <p>Communication range: 1 mile.</p> <p>Transmitter power output: 500 mw.</p> <p>Transmitter audio input impedance: 150 ohms at 1000 CPS.</p>	

RADIO SETS AN/MRC-36, AN/MRC-37, AND AN/MRC-38

Radio Set AN/MRC-37

October 1961

TECHNICAL CHARACTERISTICS		PHYSICAL CHARACTERISTICS		
Type of receiver:	Double conversion superheterodyne.	Unit	Overall Weight (in lbs)	Cubic Feet
Receiver audio output power:	75 mw for $\pm 15$ KC deviation at 1000 CPS.	AN/MRC-37	3865 (mounted in 1/4-ton 4 x 4 truck M38A1)	360
Receiver audio output impedance:	600 ohms.			
Receiver sensitivity:	25 db signal-to-noise ratio at 1.0 uv $\pm 15$ KC deviation at 1000 CPS.			
PP-282/GRC				
Input power:	20 to 32 VDC at 1.23 amp maximum.			
Output power:	135 VDC at 0.118 amp.			
PP-112/GR				
Input power:	25.2 VDC at 7.0 amp.			



Block Diagram of Set 2.

RADIO SETS AN/MRC-36, AN/MRC-37, AND AN/MRC-38

Revised  
April 1962

Radio Set AN/MRC-37

PUBLICATIONS

D/L VOL II, Radio Set AN/MRC-37, Mar 58.	SL-4-02908A, Receiver Transmitter RT-67/GRC, Dec 60.
LO 9-8014, Truck Utility 1/4 Ton 4x4, Mar 56.	SNL G-249 ORD 8 V40, Winterization Equipment, Jan 55.
NAVMC ELECT 2012, Installation Kit Mk-145A/MRC, 55.	SNL G-758 ORD 8, Truck Utility 1/4 Ton 4x4, Mar 56.
SIG M8, Case, Radio Set CY-7318/MRC, Mar 55.	SNL G-758 ORD 9, Truck Utility 1/4 Ton 4x4, Sep 56.
SIG M8, Case, Radio Set CY-732/MRC, Mar 55.	TB ORD 245, STD/Proced Dep O/Haul ORD Tank-Auto, Aug 61.
SIG M8, Installation Kit Mk-145/MRC, Sep 53.	TB ORD 392, Int Lub New Reguilt Gas Eng B Use, Sep 60.
SIG M8, Installation Kit Mk-145A/MRC, Oct 55.	TB ORD 460, Liq Cool Eng-Equip Clean-Drain Hole, Jul 52.
SIG M8, Radio Set AN/MRC-37, Jan 58.	TB ORD 485, M Models Servicing Data Plate Corr, Jan 53.
SIG M8 SUPP, Radio Receiver R-109/GRC, Jan 57.	TB ORD 524, Installed Metal Tanks Clean-Preserv, Jun 53.
SIG 7-8, Headset-Microphone H-63/U, Apr 57.	TB ORD 616, Tact-Comm Mover-Trlrs Interveh Conn, Aug 56.
SIG 7-8, Headset Microphone H-63/U, Mar 58, Ch 2.	TB 9-248, Rubber Preserv Descript-Application, Sep 58.
SIG 7-8, Headset Microphone H-63/U, Mar 59, Ch 3.	TB 9-265, Discontinuance Red Paint Mk Lub Pts, Dec 58.
SIG 7-8, Mast Base MP-65-A, B, Feb 58.	TB 9-282, Combat Veh Protect Insul Comm Equip, Sep 59.
SIG 7-8, Mounting MT-297/GR, Oct 56.	TB 9-300-1/1, Combat Veh Insp Care Pres Dur Stor, May 60.
SIG 7-8, Mounting MT-297/GR, Feb 57, Ch 1.	TB 9-300-1/1, Combat Veh Insp Care Pres Dur Stor, Nov 61, Ch 1.
SIG 7-8, Mounting MT-297/GR, Jan 58, Ch 3.	TB 9-343, ORD Veh Install-Use Overhaul Plates, Apr 60.
SIG 7-8, Mounting MT-297/GR, Feb 60, Ch 4.	TB 9-1859-20, Time Schedule Guide, Dec 53.
SIG 7-8, Radio Receiver R-109/GRC, Sep 56.	TB 9-1859-20, Time Schedule Guide, Ch 1.
SIG 7-8, Radio Receiver R-109/GRC, Mar 58, Ch 3.	TB 9-1870-1/1, Care Pneumatic Tires and Inner Tube, Jul 56.
SIG 7-8, Radio Receiver R-109/GRC, Sep 58, Ch 4.	TB 9-1870-1/2, Pneum Tires Tubes Flaps Inst Unserv, Feb 57.
SIG 7-8, Radio Set AN/GRC-5, Nov 57.	TB 9-2300-228-20, Trouble Shoot F/Ins Cluster-Wiring, Jul 60.
SL-3-00044A, Control Group AN/GRA-6, Sep 61.	TB 9-2855-43, Installation of Personnel Heater, Nov 56.
SL-3-00667A, Tool Kit Trk 3 Ech Fld M38A1 M170, Feb 62.	TM 9-207, Oper Maint Ordmatl in Extreme Cold, Sep 59.
SL-3-00668A, Tool Kit Fld Maint 4 Ech Spcl Basic, Apr 60.	TM 9-236, Military Tactical Vehicles, Sep 60.
SL-3-00683A, Tool Kit Org Main 2 Ech Set B Basic, Jan 62.	TM 9-1825B, Electrical Equipment Auto-Lite, Nov 52.
SL-3-01528A, Radio Set AN/GRC-5, Jan 61.	TM 9-1826A, Carburetors, Dec 52.
SL-4-00044A, Control Group AN/GRA-6, Aug 60.	TM 9-1827C, Brake-Misc Equip Wagner-Lockhead, Jan 53.
SL-4-00044A, Control Group AN/GRA-6, Jun 61, Ch 1.	
SL-4-00044A, Control Group AN/GRA-6, Jan 62, Ch 2.	
SL-4-02469, Receiver Transmitters RT-70A, B/GRC, Jan 61.	

Revised  
April 1962

Radio Set AN/MRC-37

PUBLICATIONS	
TM 9-1828A, Fuel Pumps, Dec 52.	TM 11-284, Radio Sets AN/GRC-3, 4, 5, 6, 7, 8, May 53.
TM 9-1828A, Fuel Pumps, Ch 1.	TM 11-284, Radio Sets AN/GRC-3, 4, 5, 6, 7, 8, Feb 54, Ch 1.
TM 9-1829A, CRD Maint Speedometers Tachometers, Apr 44.	TM 11-284, Radio Sets AN/GRC -3-4-5-6-7-8, Mar 58, Ch 6.
TM 9-1870-1, Care and Maint of Pneumatic Tires, Feb 55.	TM 11-289, Receiver-Transmitter RT-67/GRC, Dec 53.
TM 9-1870-1, Care and Maint of Pneumatic Tires, Ch 1.	TM 11-289, Receiver-Trans RT-66, 67, 68/GRC, Apr 55, Ch 1.
TM 9-2320-209-20P, Organizational Repair Prts Sp Tools, Apr 59.	TM 11-289, Receiver Trans RT-66, 67 68/GRC, Ch 2.
TM 9-2320-209-20P, Organizational Repair Prts Sp Tools, Ch 1.	TM 11-289, Receiver Trans RT-66, 67, 68/GRC, Mar 57, Ch 4.
TM 9-2853, Prep ORD Mtl F/Deep Water Fording, Jul 45.	TM 11-290, Receiver Transmit RT-70, A, B/GRC, Feb 57.
TM 9-2853, Prep ORD Mtl F/Deep Water Fording, Ch 1.	TM 11-290, Receiver Transmit RT-70, A, B/GRC, Dec 57, Ch 1.
TM 9-6140-200-15, Oper-Org F-D Main Stor Bat Lead-AC, Jul 58.	TM 11-290, Receiver Transmit RT-70, A, B/GRC, Apr 58, Ch 2
TM 9-8000, Principles of Automotive Vehicles, Jan 56.	TM 11-898, Radio Receiver R-109/GRC, Jan 56.
TM 9-8014, Oper-Org Maint 1/4 Ton 4x4 M38A1, Apr 55.	TM 11-898, Radio Receivers R-108, 109, 110/GRC, Mar 56, Ch 1.
TM 9-8014, Oper-Org Maint 1/4 Ton 4x4 M38A1, Jun 58, Ch 3.	TM 11-898, Radio Receivers R-108, 109, 110/GRC, Jun 57, Ch 2.
TM 9-8014, Oper-Org Maint 1/4 Ton 4x4 M38A1, Ch 4.	TM 11-898, Radio Receivers R-108, 109, 110/GRC, Oct 60, Ch 5.
TM 9-8014, Oper-Org Maint 1/4 Ton 4x4 M38A1, Ch 5.	TM 11-5036, PWR Supplies PP-109, A PP-112, A/GR, Dec 54.
TM 9-8015-1, CRD Maint Eng-Clutch 1/4T 4x4 M38A1, Mar 54.	TM 11-5036, PWR Supplies PP-109, A PP-112, A/GR, Ch 1.
TM 9-8015-1, ORD Maint Eng-Clutch 1/4T 4x4 M38A1, Apr 55, Ch 1.	TM 11-5036, PWR Supplies PP-109, A PP-112, A/GR, Ch 2.
TM 9-8015-2, ORD Maint PWR TR Body-Fend 1/4T 4x4, Aug 54.	TM 11-5036, PWR Supplies PP-109, A PP-112, A/GR, Ch 3.
TM 9-8015-2, ORD Maint PWR TR Body-Fend 1/4T 4x4, Ch 1.	TM 11-5038, Control Group AN/GRA-6, Apr 51.
TM 9-8015-2, ORD Maint PWR TR Body-Fend 1/4T 4x4, Ch 2.	TM 11-5038, Control Group AN/GRA-6, Dec 54, Ch 1.
TM 9-8627, Electrical Equipment Delco-Remy, Jun 53.	TM 11-5038, Control Group AN/GRA-6, Ch 2.
TM 9-8627, Electrical Equipment Delco-Remy, Ch 1.	TM 11-5040, PWR Supplies PP-281, A PP-282, A/GRC, Nov 50.
TM 9-8662, Fuel Burn Heat F/Winter Equipment, Mar 54.	TM 11-5040, PWR Supplies PP-281, A PP-282, A/GRC, Dec 51, Ch 1.
TM 10-500-10, Air Dly of Sup-Equip Rig M38A1, Apr 58.	TM 11-5040, PWR Supplies PP-281, A PP-282, A/GRC, Ch 2.
TM 10-500-10, Air Dly of Sup-Equip Rig M38A1, Ch 1.	TM 11-5820-210-10P, Power Supplies PP-282, A/GRC, Feb 60.
TM 10-500-10, Air Dly of Sup-Equip Rig M38A1, Ch 2.	

RADIO SETS AN/MRC-36, AN/MRC-37, AND AN/MRC-38

Revised  
April 1962

Radio Set AN/MRC-37

PUBLICATIONS

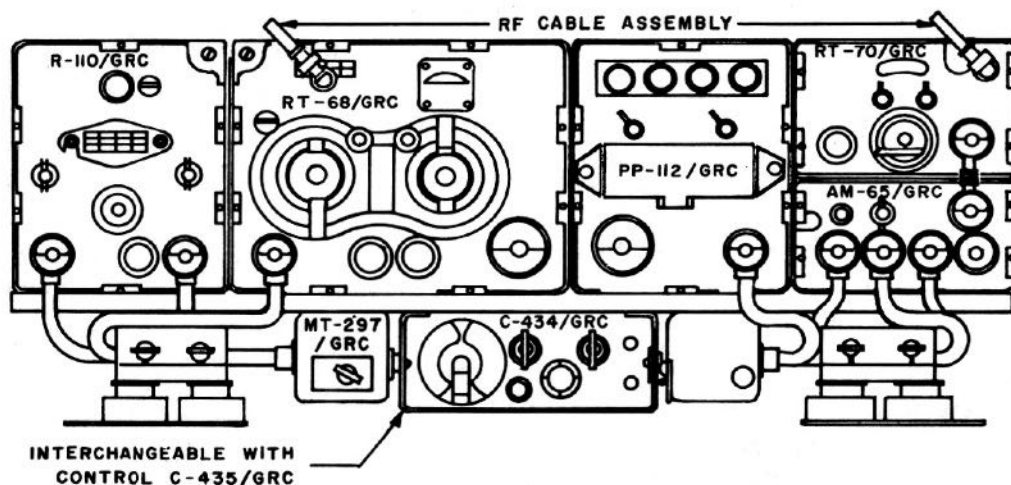
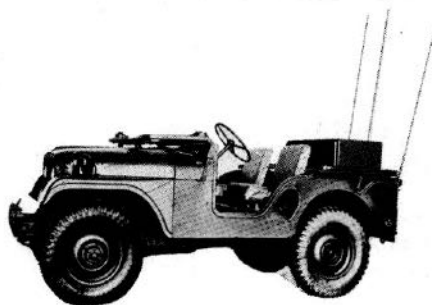
TM 11-5820-210-20P, Power Supplies PP-282, A/GRC, Feb 60.	TM 11-5965-225-12P, Chest Set Group AN/GSA-6, Apr 59.
TM 11-5820-210-35P, Power Supplies PP-282, A/GRC, Feb 60.	TM 11-5965-225-35P, Chest Set Group AN/GSA-6, Apr 59.
TM 11-5820-234-12P, Radio Set Control C-435/GRC, Nov 58.	TM 11-6130-208-10P, Power Supplies PP-112, A/GR, Jul 59.
TM 11-5820-234-35P, Radio Set Control C-435/GRC, Jan 59.	TM 11-6130-208-20P, Power Supplies PP-112, A/GR, Jul 59.
TM 11-5820-281-10P, A F Amplifier AM-65, A/GRC, May 59.	TM 11-6130-208-35P, Power Supplies PP-112, A/GR, Jul 59.
TM 11-5820-281-20P, A F Amplifier AM-65, A/GRC, May 59.	TM 21-300, Driver Selection and Training Dec 58.
TM 11-5820-281-35P, A F Amplifier AM-65, A/GRC, May 59.	TM 21-305, Manual F/Whl Vehicle Driver, Dec 56.
TM 11-5830-203-12P, Intercom Set Control C-375/VRC, Dec 58.	TM 21-305, Manual F/Whl Vehicle Driver, Ch 1.
TM 11-5830-203-35P, Intercom Set Control C-375/VRC, Jan 59.	TM 11240-1, USMC TM Tactical Mt Veh Prev Maint, Feb 61.

RADIO SETS AN/MRC-36, AN/MRC-37, AND AN/MRC-38

October 1961

Radio Set AN/MRC-38

GENERAL DATA	MAJOR UNITS
<p>F. S. N: 5820-644-0931                      ID Number: 00069A                      Function: Two-way voice communication.                      Manufacturer: MCSC, Albany, Ga.                      MCSC, Barstow, Calif.                      Contracts: Albany No. 54705,                      Job 11, 1-0027.                      Barstow No. 54706,                      Job 3, 1-0028.                      Approximate price: \$5, 500. 00                      Recommended operational checkout interval: <u>DAILY</u></p>	<p>(1) Receiver-Transmitter RT-68/GRC                      (1) Receiver-Transmitter RT-70/GRC or RT-70A/GRC                      (1) Mast Base MP-65B                      (1) Power Supply PP-112/GR                      (1) Radio Receiver R-110/GRC                      (1) AF Amplifier AM-65/GRC                      (1) Antenna Element AB-24/GR                      (1) Antenna Element MS-117                      (3) Chest Set AN/GSA-6                      (3) Microphone Headset H-63E/U                      (1) Permanent Magnet Loudspeaker LS-166/U                      (1) Mounting MT-297/GR                      (1) Control Box C-375/VRC                      (1) Radio Set Control AN/GRA-6                      (1) Radio Set Control C-435/GRC</p>



Radio Set AN/MRC-38.



RADIO SETS AN/MRC-36, AN/MRC-37, AND AN/MRC-38

Radio Set AN/MRC-38

October 1961

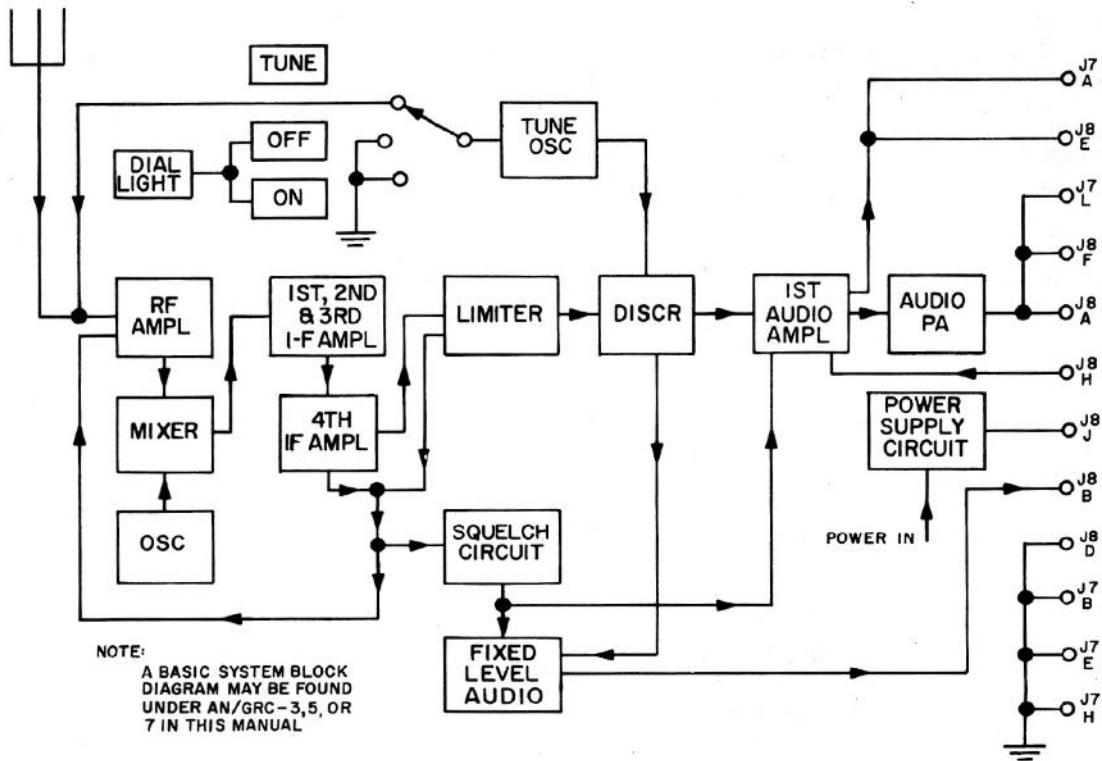
OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS
<p>Use: Radio Set AN/MRC-38 is basically Radio Set AN/GRC-7 installed in truck M38A1. Radio Set AN/MRC-38 provides frequency-modulated radiotelephone communications within a set frequency range. The set is designed primarily for short-range operation within and between armored, artillery, and infantry units.</p> <p>Used with:</p> <p>Installation: Mobile.</p>	<p>Receiver audio power output:                      Loudspeaker: 800 mw.                      Handset: 50 mw.                      Fixed level: 20 mw.</p> <p>Receiver audio output impedance: 600 ohms.</p> <p>Receiver sensitivity: 25 uv.</p> <p>RT-70/GRC or RT-70A/GRC:</p> <p>Type of transmission and reception: FM, voice.</p>
<p>SIMILAR EQUIPMENTS</p>	<p>Frequency range: 47 to 58.4 MC.                      Type of tuning: Continuous.</p>
<p>Radio Sets AN/GRC-5, AN/GRC-6, AN/MRC-36, and AN/MRC-37, except for frequency range.</p>	<p>Preset detent channels: 2.</p> <p>Channel spacing: 100 KC.</p>
<p>TECHNICAL CHARACTERISTICS</p>	<p>Communication range: 1 mile.</p>
<p>RT-68/GRC:</p> <p>Type of transmission and reception: FM, voice, and 1600-cycle ringing tone.</p> <p>Frequency range: 38 to 54.9 MC.</p> <p>Type of tuning: Choice of detent or preset channels or continuous tuning.</p> <p>Detent channels available: 170.</p> <p>Preset detent channels: 2.</p> <p>Channel spacing: 100 KC.</p> <p>Communication range: Vehicles in motion, 10 miles.                      Stationary, 15 miles.</p> <p>Transmitter power output: High, 16 watts.                      Low, 2 watts.</p> <p>Transmitter audio input impedance: 150 ohms.</p> <p>Type of receiver: Double conversion superheterodyne.</p>	<p>Transmitter power output: 500 mw.</p> <p>Transmitter audio input impedance: 150 ohms at 1000 CPS.</p> <p>Type of receiver: Double conversion superheterodyne.</p> <p>Receiver audio output power: 75 mw for <math>\pm 15</math> KC deviation at 1000 CPS.</p> <p>Receiver audio output impedance: 600 ohms.</p> <p>Receiver sensitivity: 25 db signal-to-noise ratio at 1.0 uv <math>\pm 15</math> KC deviation at 1000 CPS.</p> <p>PP-282/GRC:</p> <p>Input power: 20 to 32 VDC at 1.23 amp maximum.</p> <p>Output power: 135 VDC at 0.118 amp.</p> <p>PP-112/GR:</p> <p>Input power: 25.2 VDC at 7.0 amp.</p> <p>R-110/GRC:</p> <p>Receiver type: FM, single conversion superheterodyne.</p>

RADIO SETS AN/MRC-36, AN/MRC-37, AND AN/MRC-38

October 1961

Radio Set AN/MRC-38

TECHNICAL CHARACTERISTICS		PHYSICAL CHARACTERISTICS		
Frequency range:	38 to 55 MC.	Unit	Overall Weight (in lbs)	Cubic Feet
Sensitivity:	Over 25 db signal plus noise-to-noise ratio at 1/2 uv, deviation $\pm 15$ KC, 1000 CPS.	AN/MRC-38	3865 (mounted in 1/4-ton 4 x 4 truck M38A1)	360
Type of tuning:	Continuously variable and detent selection of three preset frequencies.			
Channel spacing:	100 KC.			
Audio output:				
Loudspeaker:	500 mw.			
Earphones:	40 mw.			
Fixed level:	20 mw.			
Audio output impedance:	600 ohms unbalanced.			
AM-65/GRC:				
Input impedance:				
RT-68/GRC interphone channel:	1500 ohms.			
RT-70/GRC or RT-70A/GRC interphone channel:	1500 ohms.			
RT-68/GRC and RT-70/GRC or RT-70A/GRC interphone channel:	150 ohms.			
Output impedance:	150 or 600 ohms (adjustable).			
AF response:	Flat to within 4 db for frequencies between 400 and 2500 cycles w/ sharp cut-off beyond these limits.			



Block Diagram of Auxiliary Receiver.

Revised  
April 1962

Radio Set AN/MRC-38

## PUBLICATIONS

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| <p>D/L VOL II, Radio Set AN/MRC-38, Mar 58.<br/>LO 9-8014, Truck Utility 1/4 Ton 4x4,<br/>Mar 56.<br/>NAVMC ELECT 2012, Installation Kit<br/>Mk-145A/MRC, 55.<br/>SIG M8, Case, Radio Set CY-7318/MRC,<br/>Mar 55.<br/>SIG M8, Case, Radio Set CY-732/MRC,<br/>Mar 55.<br/>SIG M8, Installation Kit Mk-145/MRC,<br/>Sep 53.<br/>SIG M8, Installation Kit Mk-145A/MRC,<br/>Oct 55.<br/>SIG M8, Radio Set AN/MRC-38, Jan 58.<br/>SIG 7-8, Headset-Microphone H-63/U,<br/>Apr 57.<br/>SIG 7-8, Headset Microphone H-63/U,<br/>Mar 58, Ch 2.<br/>SIG 7-8, Headset Microphone H-63/U,<br/>Mar 59, Ch 3.<br/>SIG 7-8, Mounting MT-297/GR, Oct 56.<br/>SIG 7-8, Mounting MT-297/GR, Feb 57, Ch 1.<br/>SIG 7-8, Mounting MT-297/GR, Jan 58, Ch 3.<br/>SIG 7-8, Mounting MT-297/GR, Feb 60, Ch 4.<br/>SIG 7-8, Radio Set AN/GRC-7, Aug 57.<br/>SIG 7-8, Radio Set AN/GRC-7, Mar 59, Ch 1.<br/>SL-3-00044A, Control Group AN/GRA-6,<br/>Sep 61.<br/>SL-3-00667A, Tool Kit Trk 3 Ech Fld<br/>M38A1 M170, Feb 62.<br/>SL-3-00668A, Tool Kit Fld Maint 4 Ech<br/>Spcl Basic, Apr 60.<br/>SL-3-00683A, Tool Kit Org Main 2 Ech<br/>Set B Basic, Jan 62.<br/>SL-4-00044A, Control Group AN/GRA-6,<br/>Aug 60.<br/>SL-4-00044A, Control Group AN/GRA-6,<br/>Jun 61, Ch 1.<br/>SL-4-00044A, Control Group AN/GRA-6,<br/>Jan 62, Ch 2.<br/>SL-4-02909A, Receiver Transmitter<br/>RT-68/GRC, Dec 60.<br/>SNL G-249, ORD 8 V40, Winterization<br/>Equipment, Jan 55.<br/>SNL G-758, ORD 8, Truck Utility 1/4 Ton<br/>4x4, Mar 56.<br/>SNL G-758 ORD 9, Truck Utility 1/4 Ton<br/>4x4, Sep 56.<br/>TB ORD 245, STD/Proced Dep O/Haul<br/>ORD Tank-Auto, Aug 61.</p> | <p>TB ORD 392, Int Lub New Rebuilt Gas Eng B<br/>Use, Sep 60.<br/>TB ORD 460, Liq Cool Eng-Equip Clean-<br/>Drain Hole, Jul 52.<br/>TB ORD 485, M Models Servicing Data Plate<br/>Corr, Jan 53.<br/>TB ORD 524, Installed Metal Tanks Clean-<br/>Preserv, Jun 53.<br/>TB ORD 616, Tact-Comm Mover-Trlrs<br/>Interveh Conn, Aug 56.<br/>TB 9-248, Rubber Preserv Descript-<br/>Application, Sep 58.<br/>TB 9-265, Discontinuance Red Paint Mk<br/>Lub Pts, Dec 58.<br/>TB 9-282, Combat Veh Protect Insul Comm<br/>Equip, Sep 59.<br/>TB 9-300-1/1, Combat Veh Insp Care Pres<br/>Dur Stor, May 60.<br/>TB 9-300-1/1, Combat Veh Insp Care Pres<br/>Dur Stor, Nov 61, Ch 1.<br/>TB 9-343, ORD Veh Install-Use Overhaul<br/>Plates, Apr 60.<br/>TB 9-1859-20, Time Schedule Guide, Dec 53.<br/>TB 9-1859-20, Time Schedule Guide, Ch 1.<br/>TB 9-1870-1/1, Care Pneumatic Tires and<br/>Inner Tube, Jul 56.<br/>TB 9-1870-1/2, Pneum Tires Tubes Flaps<br/>Inst Unserv, Feb 57.<br/>TB 9-2300-228-20, Trouble Shoot F/Ins<br/>Cluster-Wiring, Jul 60.<br/>TB 9-2855-43, Installation of Personnel<br/>Heater, Nov 56.<br/>TM 9-207, Oper Maint Ordmatl in Extreme<br/>Cold, Sep 59.<br/>TM 9-236, Military Tactical Vehicles, Sep 60.<br/>TM 9-1825B, Electrical Equipment Auto-<br/>Lite, Nov 52.<br/>TM 9-1826A, Carburetors, Dec 52.<br/>TM 9-1827C, Brake-Misc Equip Wagner-<br/>Lockhead, Jan 53.<br/>TM 9-1828A, Fuel Pumps, Dec 52.<br/>TM 9-1828A, Fuel Pumps, Ch 1.<br/>TM 9-1829A, ORD Maint Speedometers<br/>Tachometers, Apr 44.<br/>TM 9-1870-1, Care and Maint of Pneumatic<br/>Tires, Feb 55.<br/>TM 9-1870-1, Care and Maint of Pneumatic<br/>Tires, Ch 1.<br/>TM 9-2320-209-20P, Organizational Repair<br/>Prts Sp Tools, Apr 59.</p> |
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## PUBLICATIONS

TM 9-2320-209-20P, Organizational Repair Prts Sp Tools, Ch 1.	TM 11-289, Receiver Trans RT-66, 67, 68/GRC, Ch 2.
TM 9-2853, Prep ORD Mtl F/Deep Water Forging, Jul 45.	TM 11-289, Receiver Trans RT-66, 67, 68/GRC, Mar 57, Ch 4.
TM 9-2853, Prep ORD Mtl F/Deep Water Forging, Ch 1.	TM 11-898, Radio Receivers R-108, 109, 110/GRC, Jan 56.
TM 9-6140-200-15, Oper-Org F-D Main Stor Bat Lead-AC, Jul 58.	TM 11-898, Radio Receivers R-108, 109, 110/GRC, Mar 56, Ch 1.
TM 9-8000, Principles of Automotive Vehicles, Jan 56.	TM 11-898, Radio Receivers R-108, 109, 110/GRC, Jun 57, Ch 2.
TM 9-8014, Oper-Org Maint 1/4 Ton 4x4 M38A1, Apr 55.	TM 11-898, Radio Receivers R-108, 109, 110/GRC, Ch 5.
TM 9-8014, Oper-Org Maint 1/4 Ton 4x4 M38A1, Jun 58, Ch 3.	TM 11-5036, PWR Supplies PP-109, A, PP-112, A/GR, Dec 54.
TM 9-8014, Oper-Org Maint 1/4 Ton 4x4 M38A1, Ch 4.	TM 11-5036, PWR Supplies PP-109, A PP-112, A/GR, Ch 1.
TM 9-8014, Oper-Org Maint 1/4 Ton 4x4 M38A1, Ch 5.	TM 11-5036, PWR Supplies PP-109, A PP-112, A/GR, Ch 2.
TM 9-8015-1, ORD Maint Eng-Clutch 1/4T 4x4 M38A1, Mar 54.	TM 11-5036 PWR Supplies PP-109, A PP-112, A/GR, Ch 3.
TM 9-8015-1, ORD Maint-Eng-Clutch 1/4T 4x4 M38A1, Apr 55, Ch 1.	TM 11-5038, Control Group AN/GRA-6, Apr 51.
TM 9-8015-2, ORD Maint Pwr Tr Body-Fend 1/4T 4x4, Aug 54.	TM 11-5038, Control Group AN/GRA-6, Dec 54, Ch 1.
TM 9-8015-2, ORD Maint Pwr Tr Body-Fend 1/4T 4x4, Ch 1.	TM 11-5038, Control Group AN/GRA-6, Ch 2.
TM 9-8015-2, ORD Maint Pwr Tr Body-Fend 1/4T 4x4, Ch 2.	TM 11-5040, PWR Supplies PP-281, A PP-282, A/GRC, Nov 50.
TM 9-8627, Electrical Equipment Delco-Remy, Jun 53.	TM 11-5040, PWR Supp PP-281, A PP-282, A/GRC, Dec 51, Ch 1.
TM 9-8627, Electrical Equipment Delco-Remy, Jun 53, Ch 1.	TM 11-5040, PWR Supplies PP-281, A PP-282, A/GRC, Ch 2.
TM 9-8662, Fuel Burn Heat F/Winter Equipment, Mar 54.	TM 11-5820-210-10P, Power Supplies PP-282, A/GRC, Feb 60.
TM 10-500-10, Air Dly of Sup-Equip Rig M38A1, Apr 58.	TM 11-5820-210-20P, Power Supplies PP-282, A/GRC, Feb 60.
TM 10-500-10, Air Dly of Sup-Equip Rig M38A1, Ch 1.	TM 11-5820-210-35P, Power Supplies PP-282, A/GRC, Feb 60.
TM 10-500-10, Air Dly of Sup-Equip Rig M38A1, Ch 2.	TM 11-5820-234-12P, Radio Set Control C-435/GRC, Nov 58.
TM 11-284, Radio Sets AN/GRC-3-4-5-6-7-8 May 53.	TM 11-5820-234-35P, Radio Set Control C-435/GRC, Jan 59.
TM 11-284, Radio Sets AN/GRC-3-4-5-6-7-8 Feb 54, Ch 1.	TM 11-5820-281-10P, AF Amplifier AM-65, A/GRC, May 59.
TM 11-284, Radio Sets AN/GRC-3-4-5-6-7-8 Mar 58, Ch 6.	TM 11-5820-281-20P, AF Amplifier AM-65, A/GRC, May 59.
TM 11-289, Receiver-Transmitter RT-68/GRC, Dec 53.	TM 11-5820-281-35P, AF Amplifier AM-65, A/GRC, May 59.
TM 11-289, Receiver-Trans RT-66, 67, 68/GRC, Apr 55, Ch 1.	TM 11-5820-450-20P, Radio Receiver R-110/GRC, Aug 60.

RADIO SETS AN/MRC-36, AN/MRC-37, AND AN/MRC-38

Revised  
April 1962

Radio Sets AN/MRC-36, AN/MRC-37, and AN/MRC-38

PUBLICATIONS

TM 11-5820-450-35P, Radio Receiver  
R110/GRC, Oct 60.

TM 11-5830-203-12P, Intercom Set Control  
C-375/VRC, Dec 58.

TM 11-5830-203-35P, Intercom Set Control  
C-375/VRC, Jan 59.

TM 11-5965-225-12P, Chest set Group  
AN/GSA-6, Apr 59.

TM 11-5965-225-35P, Chest Set Group  
AN/GSA-6, Apr 59.

TM 11-6130-208-10P, Power Supplies  
PP-112, A/GR, Jul 59.

TM 11-6130-208-20P, Power Supplies  
PP-112, A/GR, Jul 59.

TM 11-6130-208-35P, Power Supplies  
PP-112, A/GR, Jul 59.

TM 21-300, Driver Selection and Training  
Dec 58.

TM 21-305, Manual F/WHL Vehicle Driver  
Dec 56.

TM 21-305, Manual F/WHL Vehicle Driver,  
Ch 1.

TM 11240-1, USMC TM Tactical MT Veh  
Prev Maint, Feb 61.

RADIO SETS AN/MRC-36, AN/MRC-37, AND AN/MRC-38

Radio Set AN/MRC-38

October 1961

MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
	Refer to the Test Equipment Requirements for Radio Sets AN/GRC-3, AN/GRC-5, and AN/GRC-7.			

RADIO SETS AN/MRC-36, AN/MRC-37, AND AN/MRC-38

October 1961

Radio Set AN/MRC-38

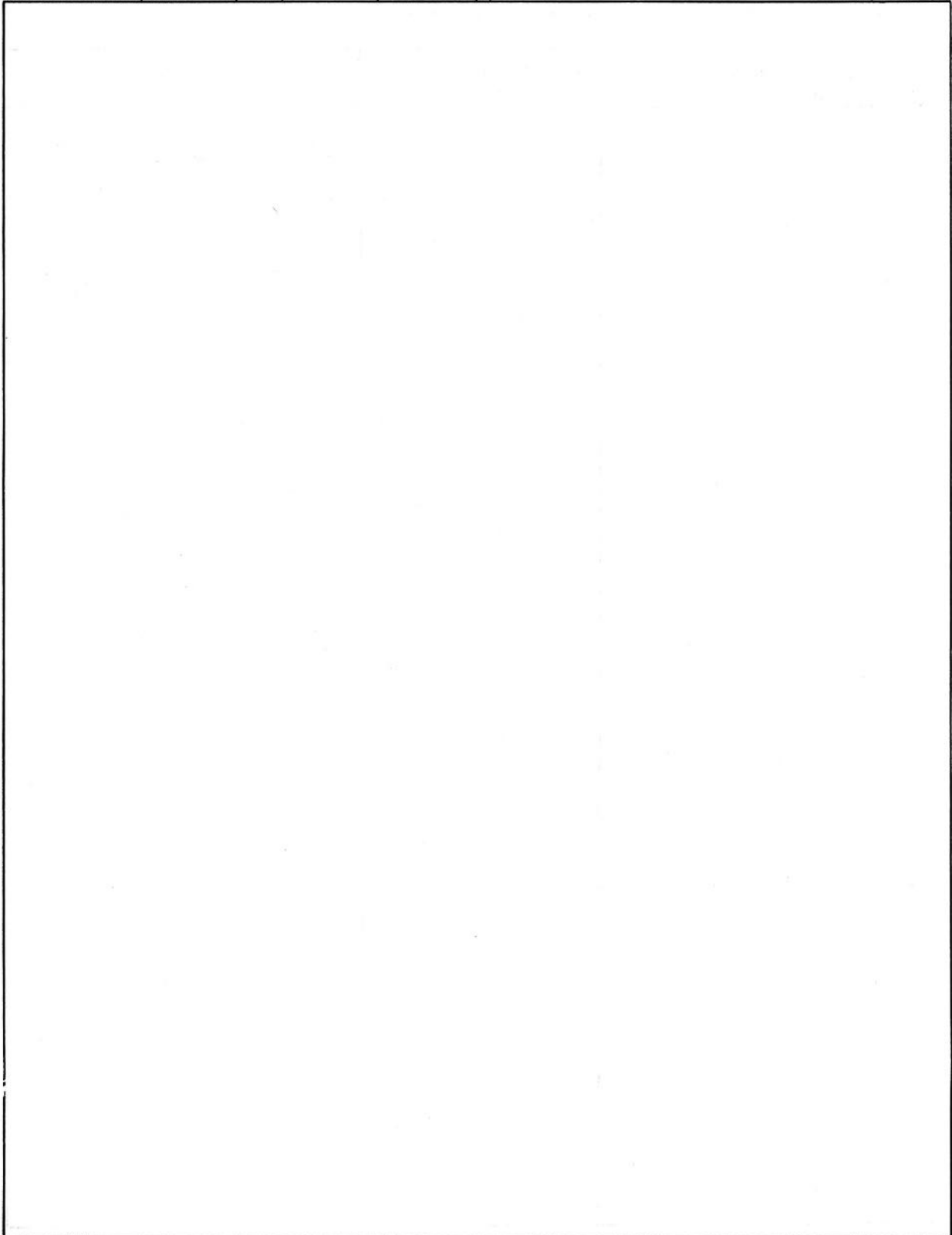
EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
		Refer to the modifications for Radio Sets AN/GRC-3, AN/GRC-5, and AN/GRC-7.



RADIO SETS AN/MRC-36, AN/MRC-37, AND AN/MRC-38

Radio Sets AN/MRC-36, AN/MRC-37, AND AN/MRC-38

October 1961

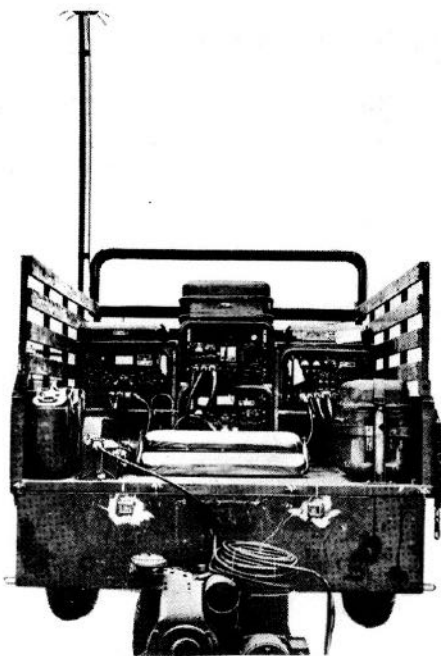


RADIO SET AN/MRC-40

October 1961

Radio Set AN/MRC-40

GENERAL DATA	MAJOR UNITS
<p>F. S. N: 5820-644-0936                      ID Number: 00070A                      Function: Two-way communications.                      Manufacturer: MCSC, Albany, Ga.                      MCSC, Barstow, Calif.                      Contracts: Albany, Proj. 54703,                      Job 7.                      Barstow, Proj. 54704,                      Job 6.                      Approximate price: \$8,900.00                      Recommended operational checkout interval: <u>DAILY</u></p>	<p>(1) Mast Adapters                      (1) Antenna AS-390/SRC                      (1) Electrical Equipment Cabinet CY-801/GR                      (1) Electronic Maintenance Kit CY-800/GR                      (1) Control Group Case CY-725/GR                      (1) Control Group Case CY-726/GR                      (1) Control Group Case CY-727/GR                      (1) Receiver Case CY-722/GR                      (1) Transmitter Case CY-724/GR                      (1) Radio Set Control C-1335/TRC-32                      (1) Radio Set Control C-1336/TRC-32                      (1) Generator Set PE-75A                      (1) Mast AB-155A/U                      (1) Modulator Power Supply MD-129A/GR                      (1) Radio Receiver R-278B/GR                      (1) Radio Transmitter T-217A/GR                      (1) Cargo Trailer M-105E3</p>

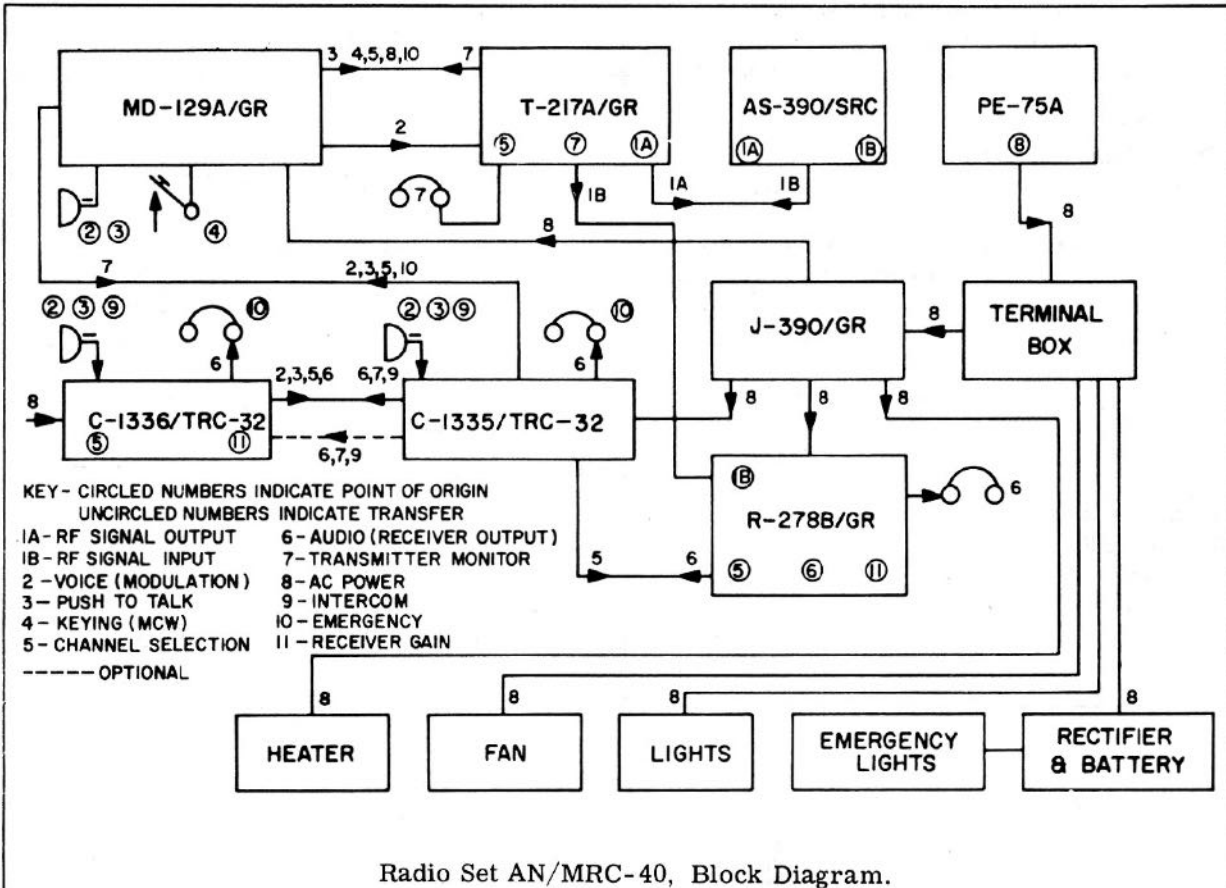


Radio Set AN/MRC-40.

# RADIO SET AN/MRC-40

Radio Set AN/MRC-40

October 1961



OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS		
<p>Use: Radio Set AN/MRC-40 is a two-way communications ground radio control, semi-portable field installation. Radio Set AN/MRC-40 provides AM, CW, MCW operation within the ultra high frequency spectrum between various ground installations utilizing similar UHF equipment.</p> <p>Used with:</p> <p>Installation: Transportable.</p>	<p>Power requirements: 115/230 VAC, 60 CPS, single phase.</p> <p>Frequency range: 225 to 399.9 MC, 1 band, 1750 channels.</p> <p>Type of operation: CW, MCW, and phone.</p> <p>Power output: 100 watts, MCW and phone operation.</p>		
SIMILAR EQUIPMENTS	PHYSICAL CHARACTERISTICS		
<p>Radio Set AN/GRC-48.</p>	Unit	Overall Weight (in lbs)	Cubic Feet
	AN/MRC-40	5650 (mounted in 1-1/2 ton two- wheel trailer)	784

Revised  
April 1962

Radio Set AN/MRC-40

## PUBLICATIONS

<p>D/L VOL I, Power Unit PE-75, Jun 53. LO 11-900, Power Units PE-75 Series, Feb 45. NAVMC ELECT 2003, Instruction Book AB-155A/U, Oct 54. NAVSHIPS 91338, Antenna AS-390/SRC, AT-150/SRC, Jun 50. SIG M8, Headset Electrical MHS-11, Aug 56. SIG M8, Radio Set AN/MRC-40, Jul 55. SIG M8 SUPP, Radio Set AN/MRC-40, May 57. SL-3-00070A, Radio Set AN/MRC-40, Dec 60. SL-3-00365A, Headset MHS-11, Jan 61. SL-3-00765, Antenna AS-390/SRC and AS-390A/SRC, Oct 60. SL-3-00765, Antenna AS-390/SRC and AS-390A/SRC, Jul 60. SL-4-02381A, Mast AB-155A/U, Sep 60. SL-4-02436A, Transmitter Radio T-217A/GR, Jul 60 and Ch 1 Feb 61. SL-4-02438A, Radio Receiver R-278B/GR, Dec 60. SL-4-02659A, Modulator Pwr Supply MD-129A/GR, Jul 60. SL-4-02671A, Control Radio Set C-1335/TRC-36, Jul 60. SL-4-02672A, Control Radio Set C-1336/TRC-32, Jul 60. TB ORD-245 Std/Proced Dep O/Haul ORD Tank-Auto. TB ORD 524, Installed Metal Tanks Clean-Preserv, Jun 53. TB ORD 616, Tact-Comm Mover-Trlrs Interveh Conn, Aug 56.</p>	<p>TB 9-245, Stand-Procdr F/Depot Recond Ordmatl, Feb 59. TB 9-248, Rubber Preserv Descript-Application, Sep 58. TB 9-265, Discontinuance Red Paint Mk Lub Pts, Dec 58. TB 9-282, Combat Veh Protect Insul Comm Equip, Sep 59. TB 9-300-1/1, Combat Veh Inspect-Preserv D/Storage, May 60, Ch 1 Nov 61. TB 9-343, Ord Veh Install-Use Overhaul Plates, Apr 60. TB 9-1870-1/1, Care Pneumatic Tires and Inner Tube, Jul 56. TB 9-1870-1/2, Pneum Tires Tubes Flaps Inst Unserv, Feb 57. TM 9-2810, Tact Motor Veh Preventive Maint, Aug 58. TM 11-900, Power Units PE-75 Series, Sep 45. TM 11-6115-206-10P, Power Units PE-75 Series, Jul 59. TM 11-6115-206-20P, Power Units PE-75 Series, Jul 59. TM 11-6115-206-35P, Power Units PE-75 Series, Jul 59. TO 16-35C1335-1, Contr Radio Set C-1335/TRC-32 and C-1336/TRC-32, Sep 54. TO 31R2-2GRC27-42, Maint XMTR OA-104/GR, Mod OA-191/GR, Jan 57. TO 31R2-2GRC27-44, IPB XMTR GR OA-104/GR, Mod OA-191/GR, Apr 58. TM 11240-1 USMC TM Tactical Mt Veh Prev Maint, Feb 61.</p>
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RADIO SET AN/MRC-40

Radio Set AN/MRC-40

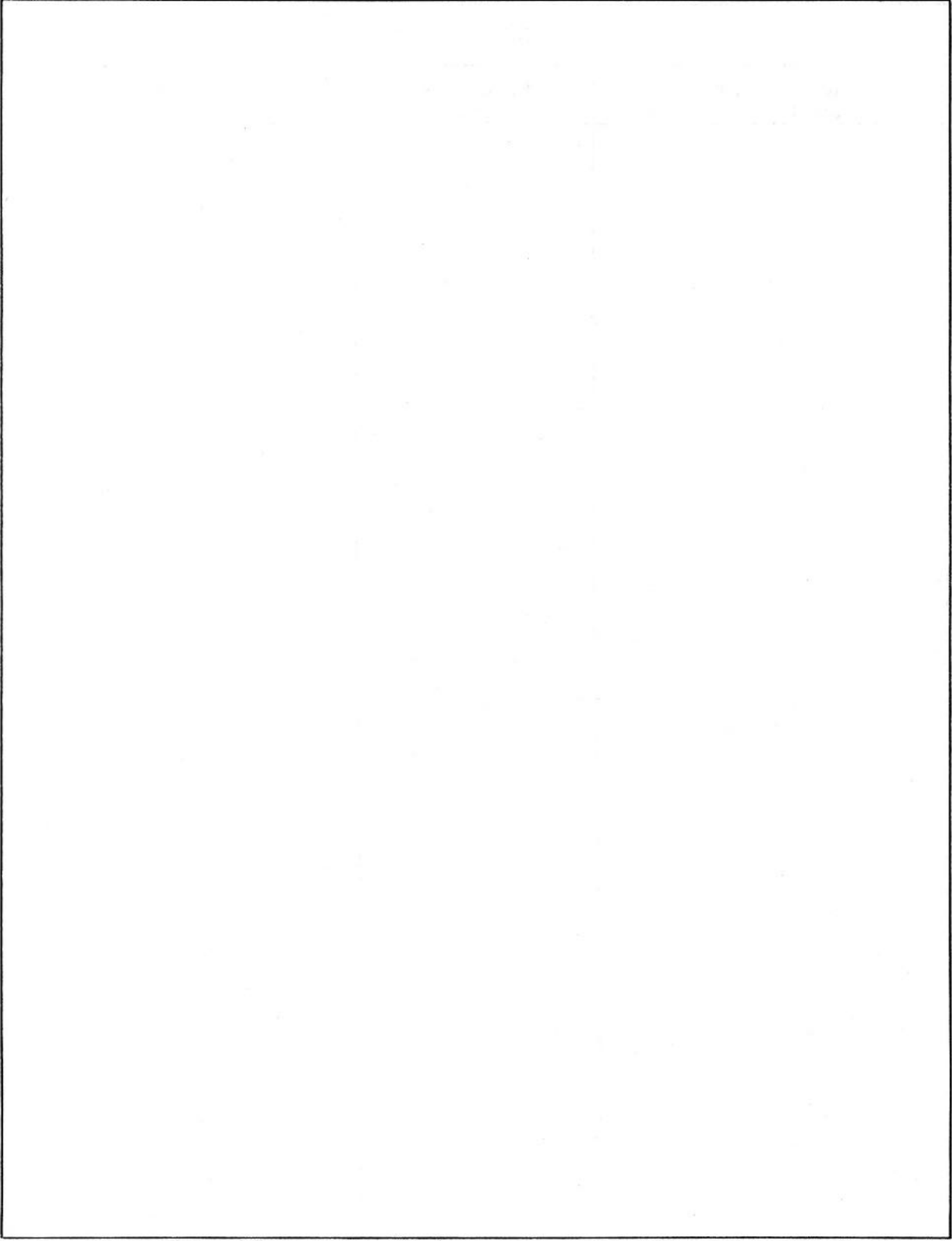
October 1961

MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
	Refer to section on AN/GRC-48 for test equipment requirements.			

October 1961

Radio Set AN/MRC-40

EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
		Refer to section on AN/GRC-48 for a list of the appropriate modifications.

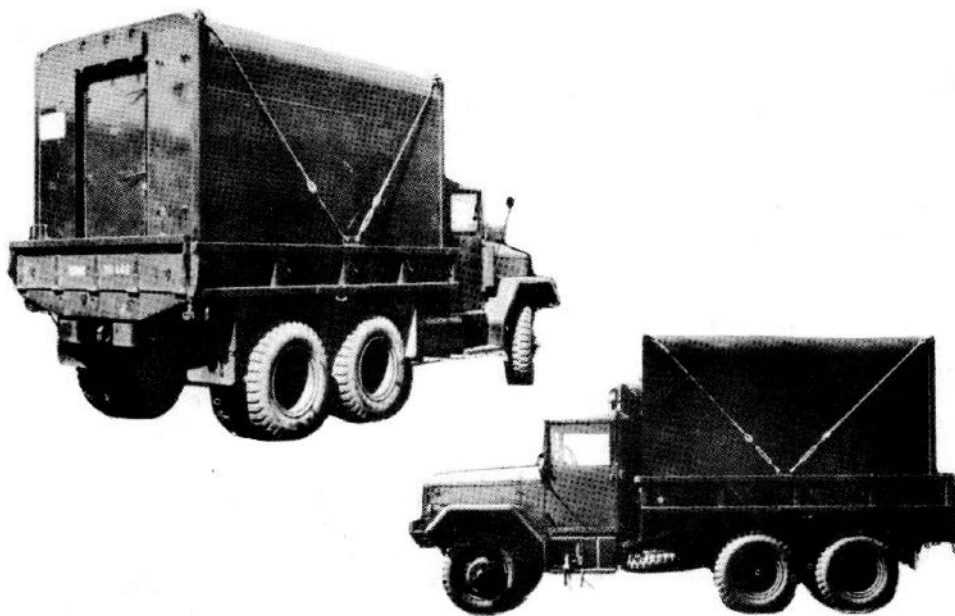


# RADIO SET AN/MRC-47

October 1961

Radio Set AN/MRC-47

GENERAL DATA	MAJOR UNITS
<p>F. S. N: 5820-556-9081                      ID Number: 00071A                      Function: Two-way communication.                      Manufacturer: Charleston Naval Shipyard, Charleston, S. C. MCSC, Albany, Ga.</p> <p>Contracts: Proj. No. CSB-53-54                      64709 54703 Job 6</p> <p>Approximate price: \$67,000.00                      Recommended operational checkout interval: <u>DAILY</u></p>	<ul style="list-style-type: none"> <li>(2) Radio Receiver R-278B/GR</li> <li>(1) Remote Control Unit 23270</li> <li>(1) Remote Control Unit 23270 (Mod)</li> <li>(1) Remote Control Unit 23398S</li> <li>(1) Frequency Meter LM-18</li> <li>(2) Loudspeaker Navy Type 49546</li> <li>(2) Power Supply Navy Type 20218 or 20242</li> <li>(2) Power Supply Navy Type 20309</li> <li>(4) Control Group AN/GRA-11</li> <li>(4) Radio Receiver R-388/URR</li> <li>(2) Receiver Navy Type 46159 or 46159A</li> <li>(1) Shelter S-104/MRC-47</li> <li>(2) Radio Transmitter Navy Type 52245</li> <li>(1) Transmitter Group OA-77/MRC-47</li> <li>(2) Modulator Power Supply MD-129A/GR</li> <li>(1) Power Supply Navy Type 20219</li> <li>(1) Shelter S-103/MRC-47</li> <li>(1) Telephone Set EE-8</li> <li>(2) Radio Transmitter T-217A/GR</li> <li>(2) Radio Transmitter Navy Type 52299</li> <li>(2) Cargo Truck M-35</li> </ul>



Radio Set AN/MRC-47.



RADIO SET AN/MRC-47

Radio Set AN/MRC-47

October 1961

OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS
<p>Use: Radio Set AN/MRC-47 is a general purpose, transportable communications set used to provide AM, CW, MCW, and telegraphy operation between ground installations and aircraft in flight. Major components of Receiver Group OA-778/MRC-47 and Transmitter Group OA-777/MRC-47 are contained in shelters of the same basic design which are mounted on 2-1/2 ton, 6 x 6, Ord Model M-35 trucks.</p> <p>Used with:</p> <p>Installation: Mobile.</p>	<p>Receiver Group OA-778/MRC-47:</p> <p>Frequency range: Navy Crystal Calibrated Frequency Indicating Equipment LM-18: 125 to 250 KC. 2000 to 4000 KC.</p> <p>Navy Radio Receiver 46159, 46159-A: 1500 to 12,000 KC, 3 bands.</p> <p>Navy Radio Transmitter 52245, 52245-A: 150 to 12,000 KC, 3 bands.</p>
<p>SIMILAR EQUIPMENTS</p>	<p>Radio Receiver R-388/URR: 0.5 to 30.5 MC, 30 bands.</p>
	<p>Transmission and/or reception: Navy Radio Receiver 46159, 46159-A: AM, CW. Navy Radio Transmitter 52245, 52245-A: AM, CW.</p>
<p>TECHNICAL CHARACTERISTICS</p>	<p>Radio Receiver R-388/URR: AM, CW, MCW, and FSK.</p>
<p>Power requirements:</p> <p>Receiver Group OA-778/MRC-47: 115 VAC, 50 to 60 CPS, single phase, 9.8 KW.</p> <p>Transmitter Group OA-777/MRC-47: 115 VAC, 50 to 60 CPS, single phase, 2.82 KW.</p> <p>Navy Remote Control Unit 23398: 1.5 VDC.</p> <p>Radio Set Control Group AN/GRA-11: 1.5 VDC.</p> <p>Frequency ranges: 1500 to 12,000 KC; 2000 to 18,000 KC and 225 to 399.9 MC.</p> <p>Power output: (A1) 40 W and 400 W, (A2) 100 W, (A3) 20 W and 100 W.</p> <p>Transmission and/or reception: AM, CW, MCW, and FSK.</p>	<p>Power output: Navy Radio Receiver 46159, 46159-A: 1.5 W. Navy Radio Transmitter 52245, 52245-A: 20 W (AM). 40 W (CW).</p> <p>Radio Receiver R-388/URR: 1.5 W, undistorted.</p> <p>Sensitivity: Navy Radio Receiver 46159, 46159-A: 1.5 uv.</p> <p>Transmitter Group OA-777/MRC-47: Frequency range: Navy Radio Receiver 46159, 46159-A: 1500 to 12,000 KC, 3 bands.</p> <p>Navy Radio Transmitter 52245, 52245-A: 1500 to 12,000 KC, 3 bands.</p>

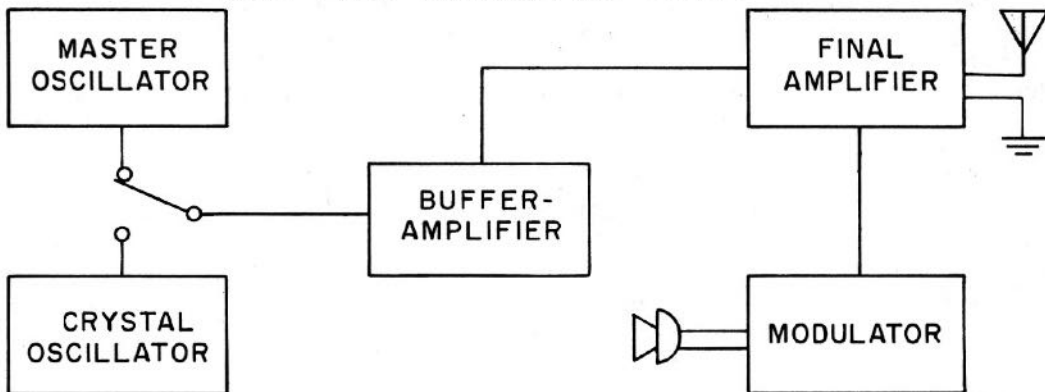
RADIO SET AN/MRC-47

October 1961

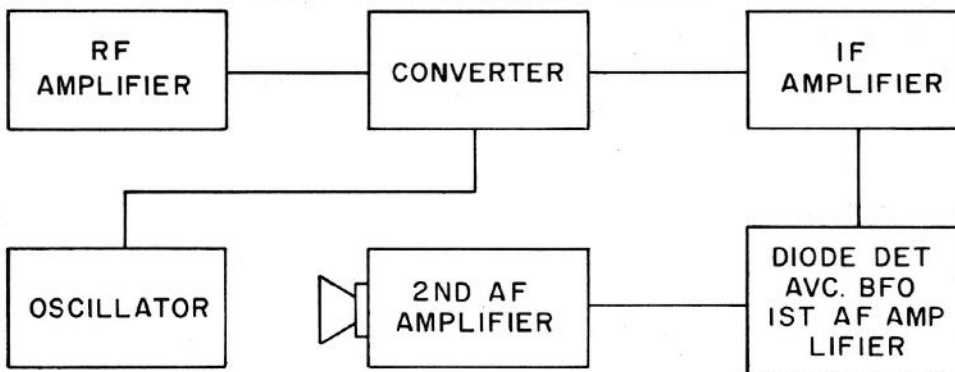
Radio Set AN/MRC-47

TECHNICAL CHARACTERISTICS		PHYSICAL CHARACTERISTICS			
<p>Navy Radio Transmitter 52299: 2000 to 18,000 KC, 6 bands.</p> <p>Radio Receiver R-278B/GR: 225 to 399.9 MC, 1 band, 1750 channels.</p> <p>Radio Transmitter T-217A/GR: 225 to 399.9 MC, 1 band, 1750 channels.</p> <p>Transmission and/or reception:                      Navy Radio Receiver 46159, 46159-A: AM, CW.                      Navy Radio Transmitter 52245, 52245-A: AM, CW.                      Navy Radio Transmitter 52299: AM, CW.                      Radio Receiver R-278B/GR: AM, CW.                      Radio Transmitter T-217A/GR: AM, CW, MCW.</p> <p>Power output:                      Navy Radio Receiver 46159, 46159-A: 1.5 watts.                      Navy Radio Transmitter 52245, 52245-A: 20 watts AM, 40 watts CW.                      Navy Radio Transmitter 52299: 100 watts AM, 40 watts CW.</p> <p>Sensitivity:                      Navy Radio Receiver 46159, 46159-A: 1.5 uv.                      Radio Receiver R-278B/GR: 6 uv.</p>		Unit	Overall Weight (in lbs)	Cubic Feet	
		AN/MRC-47	32,500 (mounted in two trucks 2-1/2 ton 6 x 6)	3480	

NAVY TYPE TRANSMITTER 52245

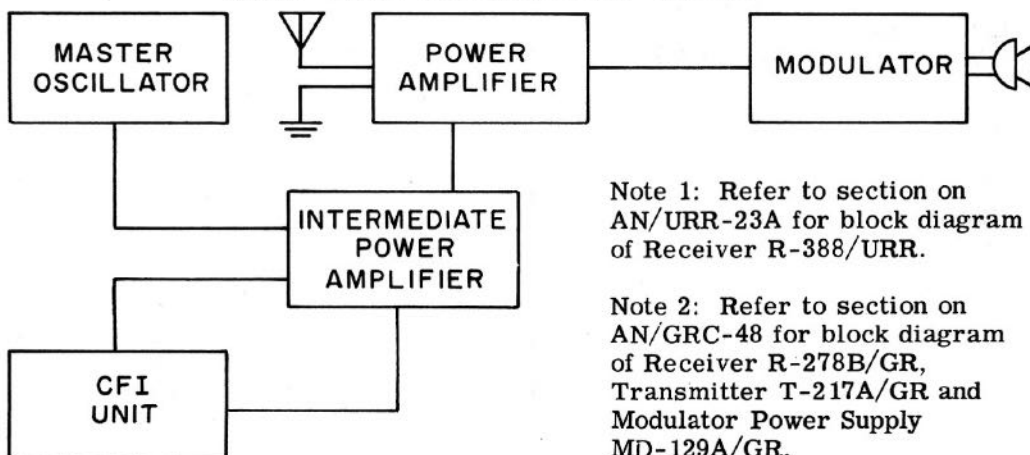


NAVY TYPE RECEIVER 46159



Model TCS Transmitting Receiving Equipment

NAVY TYPE TRANSMITTER 52299



Note 1: Refer to section on AN/URR-23A for block diagram of Receiver R-388/URR.

Note 2: Refer to section on AN/GRC-48 for block diagram of Receiver R-278B/GR, Transmitter T-217A/GR and Modulator Power Supply MD-129A/GR.

Model TCK-4 Transmitting Equipment

Radio Set AN/MRC-47, Block Diagram.

PUBLICATIONS

D/L VOL II, Radio Set AN/MRC-47, Jul 59. LO 9-8022, Lubrication Order, Aug 57. NAVMC ELECT 2003, Mast AB-155A/U, Oct 54. NAVSHIPS 338-0211, Package Dehumidifier, Jul 49. NAVSHIPS 91277, Frequency Meter LM-18, Nov 49. NAVSHIPS 900, 210, Transmitting Set Radio TCK-4, Oct 52. NAVSHIPS 900, 291B, Radio Set Model TCS-12, Nov 44. SIG M 8, Headset Electrical MHS-11, Aug 56. SIG 7-8, Handsets H-23/U, H-23A, B, C/U, Jul 56. SIG 7-8, Mast Base AB-15/GR, Nov 57. SIG 7-8, Mast Base MP-65, A, B, Feb 58. SL-3-00045A, Radio Set Control Group AN/GRA-11, May 61. SL-3-00671A, Tool Kit Fld Maint 3 Ech Spcl Basic, Apr 60. SL-3-00682A, Tool Kit Field Maint 3 Ech Supp Gov, Apr 60. SL-3-01496A, Tool Kit Field Maint 4 Ech Supp Gov, Apr 60. SL-3-01502A, Tool Kit Org M 2nd Ech Spcl Set B, Apr 60. SL-4-00020, Test Sets Elect Tube TV-7, A, B, D/U, Jul 61. SL-400045A, Radio Set Control Group AN/GRA-11, Feb 61. SL-4-00071, Radio Set AN/MRC-47, A, Apr 61. SL-4-01153A, Frequency Meter LM-18, Jul 60. SL-4-01164A, Transmitting Set Radio TCK-4, Jul 60. SL-4-01164A, Transmitting Set Radio TCK-4, Sept 61, Ch 1. SL-4-02381A, Mast AB-155A/U, Sept 60. SL-4-02436A, Transmitter Radio T-217A/GR, Jul 60. SL-4-02436A, Transmitter Radio T-217A/GR, Feb 61, Ch 1. SL-4-02437A, Receiver Radio R-388/URR, Sep 60. SL-4-02437A, Receiver Radio R-388/URR, Feb 62, Ch 1. SL-4-02438A, Radio Receiver R-278B/GR, Dec 60. SL-4-02659A, Modulator-Power Supply MD-129A/GR, Jul 60.	SL-4-02671A, Control Radio Set C-1335/TRC- 32, Jul 60. SL-4-02672A, Control Radio Set C-1336/TRC- 32, Jul 60. SNL G-249 ORD 8, Winterization Equipment, Jan 55. SNL G-742 ORD 8, Field and Depot Maint Allowances, Sep 57. SNL G-742 ORD 9, List of All Parts, Jan 55. TB ORD 245, Std/Proced Dept O/Haul Ord Tank-Auto, Aug 61. TB ORD 392, Int Lub New Rebuilt Gas Eng B Use, Sep 60. TB ORD 460 Liq Cool Eng-Equip Clean Drain Hole, Jul 52. TB ORD 485, M Models Servicing Data Plate Corr, Jan 53. TB ORD 500, 2-1/2, 5T M Ser Veh Weld Tie-Rod End, Apr 53. TB ORD 524, Installed Metal Tanks Clean- Preserv, Jun 53. TB ORD 616, Tact-Comm Mover-Trlrs Interveh Conn, Aug 56. TB 9-248, Rubber Preserv Descript-Appli- cation, Sep 58. TB 9-265, Discontinuance Red Paint Mk Lub Pts, Dec 58. TB 9-282, Combat Veh Protect Insul Comm Equip, Sep 59. TB 9-300-1/1, Combat Veh Insp Care Pres Dur Stor, May 60. TB 9-300-1/1, Combat Veh Insp Care Pres Dur Stor, Nov 61, Ch 1. TB 9-343, Ord Veh Install-Use Overhaul Plates, Apr 60. TB 9-819-16, Correction of Loose Vibration Damp, Mar 53. TB 9-1859-3, Time Schedule Guide, Mar 53. TB 9-1859-3, Time Schedule Guide, Ch 1. TB 9-1870-1/1, Care Pneumatic Tires and Inner Tube, Jul 56. TB 9-1870-1/2, Pneum Tires Tubes Flaps Inst Unserv, Feb 57. TB 9-2300-206-15, Test-Rebuild 100 Amp 28V Gen System, Nov 58. TB 9-2300-228-20 Trouble Shoot F/Ins Cluster Wiring, Jul 60. TB 9-2855-8, Installation of Personnel Heater Kt, Jul 54. TB 9-2855-9, Installation of Power Plant Heater, Jan 55.
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TB 9-2855-10, Installation of Hardtop Close Kit, Jul 53.	TM 9-8022, Operation and Organizational Maint, Ch 3.
TB 9-2855-41, Installation of Personnel Heater Kt, Dec 56.	TM 9-8022, Operation and Organizational Maint, Oct 58, Ch 4.
TB 9-8022-22, 2-1/2T 6 x 6 M Series Inst Thermostat, Apr 55.	TM 9-8022, Operation and Organizational Maint, Ch 5.
TB 9-8022-26, 2-1/2T M Series Trks Inst Air Gov, Nov 56.	TM 9-8022, Operation and Organizational Maint, Ch 6.
TB 11-5083-1, Test Data TV-7, A, B, D/U, Oct 57.	TM 9-8023-1, Ord Maint Eng Clutch 2-1/2T 6 x 6 Trk, Mar 57.
TB 11-5083-1, Test Data TV-7, A, B, D/U, Dec 58, Ch 1.	TM 9-8023-1, Ord Maint Eng Clutch 2-1/2T 6 x 6 Trk, Ch 1.
TB 11-5083-1, Test Data TV-7, A, B, D/U, Apr 59, Ch 2.	TM 9-8023-2, Ord Maint Pwr Train Cab and Chassis, Mar 56.
TB 11-5083-1, Test Data TV-7, A, B, D/U, Feb 60, Ch 3.	TM 9-8023-2, Ord Maint Pwr Train Cab and Chassis, Ch 1.
TB 11-5083-1, Test Data TV-7, A, B, D/U, Jun 60, Ch 4.	TM 9-8023-3, Body and Auxiliary Equipment, May 50.
TM 9-207, Oper-Maint Ordmatl in Extreme Cold, Sept 59.	TM 9-8615, Steering Gears, Jun 53.
TM 9-236, Military Tactical Vehicles, Sep 60.	TM 9-8617, Winches Pwr Takeoff Divider Hyd Eq, May 55.
TM 9-1825B, Electrical Equipment Auto-Lite, Nov 52.	TM 9-8621, Power Train Components, Dec 53.
TM 9-1827A, Power Brake Sys Bendix-Westinghouse, Feb 53.	TM 9-8623, Axles and Transfers, Apr 54.
TM 9-1827C, Brake-Misc Equip Wagner-Lockhead, Jan 53.	TM 9-8623, Axles and Transfers, Ch 1.
TM 9-1828A, Fuel Pumps, Dec 52.	TM 9-8627, Electrical Equipment Delco-Remy, Jun 53.
TM 9-1828A, Fuel Pumps, Ch 1.	TM 9-8627, Electrical Equipment Delco-Remy, Ch 1.
TM 9-1829A, Ord Maint Speedometers Tachometers, Apr 44.	TM 9-8647, Carburetors, Aug 58.
TM 9-1870-1, Care and Maint of Pneumatic Tires, Feb 55.	TM 9-8662, Fuel Burn Heat F/Winter Equipment, Mar 54.
TM 9-1870-1, Care and Maint of Pneumatic Tires, Ch 1.	TM 10-500-20, Air Dly of Supp Equip of Truck M34, Nov 58.
TM 9-2320-209-20P, Organizational Repair Prts Sp Tools, Apr 59.	TM 10-500-20, Air Dly of Supp Equip of Truck M34, Ch 1.
TM 9-2320-209-20P, Organizational Repair Prts Sp Tools, Ch 1.	TM 11-333, Telephone EE-8, A, B, Mar 45.
TM 9-2853, Prep Ord Mtl F/Deep Water Fording, Jul 45.	TM 11-333, Telephone EE-8, A, B, Ch 1.
TM 9-2853, Prep Ord Mtl F/Deep Water Fording, Ch 1.	TM-11-854, Receiver Radio R-388/URR, Apr 52.
TM 9-6140-200-15, Oper-Org F-D Maint Stor Bat Lead-AC, Jul 58.	TM 11-2632, Remote Control Equipment RC-261, Oct 44.
TM 9-8000, Principles of Automotive Vehicles, Jan 56.	TM 11-5805-200-12P, Telephone EE-8, A, B, C, D, E, Jul 59.
TM 9-8022, Operation and Organizational Maint, Dec 54.	TM 11-5805-200-35P, Telephone EE-8, A, B, C, D, E, Jul 59.
	TM 11-5805-272-12P, Generator GN-38, A, B, Jul 59.
	TM 11-5805-272-35P, Generator GN-38, A, B, Aug 59.
	TM 11-5965-216-15P, Handset TS-9-F, Dec 59.

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TM 11-6625-274-12, Test Set Electron Tube  
TV-7, A, B, D/U, Jun 60.

TM 11-6625-274-35, Test Set Electron Tube  
TV-7, A, B, D/U, Jun 60.

TM 21-300, Driver Selection and Training,  
Dec 58.

TM 21-305, Manual for Wheeled Vehicle  
Driver, Dec 56.

TM 21-305, Manual for Wheeled Vehicle  
Driver, Ch 1.

TM 11240-1, USMC TM Tactical Mt Veh  
Prev Maint, Feb 61.

TO 16-35C1335-1, Contr Radio Set C-1335-  
1336/TRC-32, Sep 54.

TO 31R2-2GRC27-12, SVC Radio Receivers  
R-278, A, B/GR, Dec 58.

TO 31R2-2GRC27-24, IPB Receiver Group  
OA-192/GR, Apr 58.

TO 31R2-2GRC27-42, Maint XMTR OA-104/GR,  
Mod OA-191/GR, Jan 57.

TO 31R2-2GRC27-44, IPB XMTR GR  
OA-104/GR, Mod OA-191/GR, Apr 58.

RADIO SET AN/MRC-47

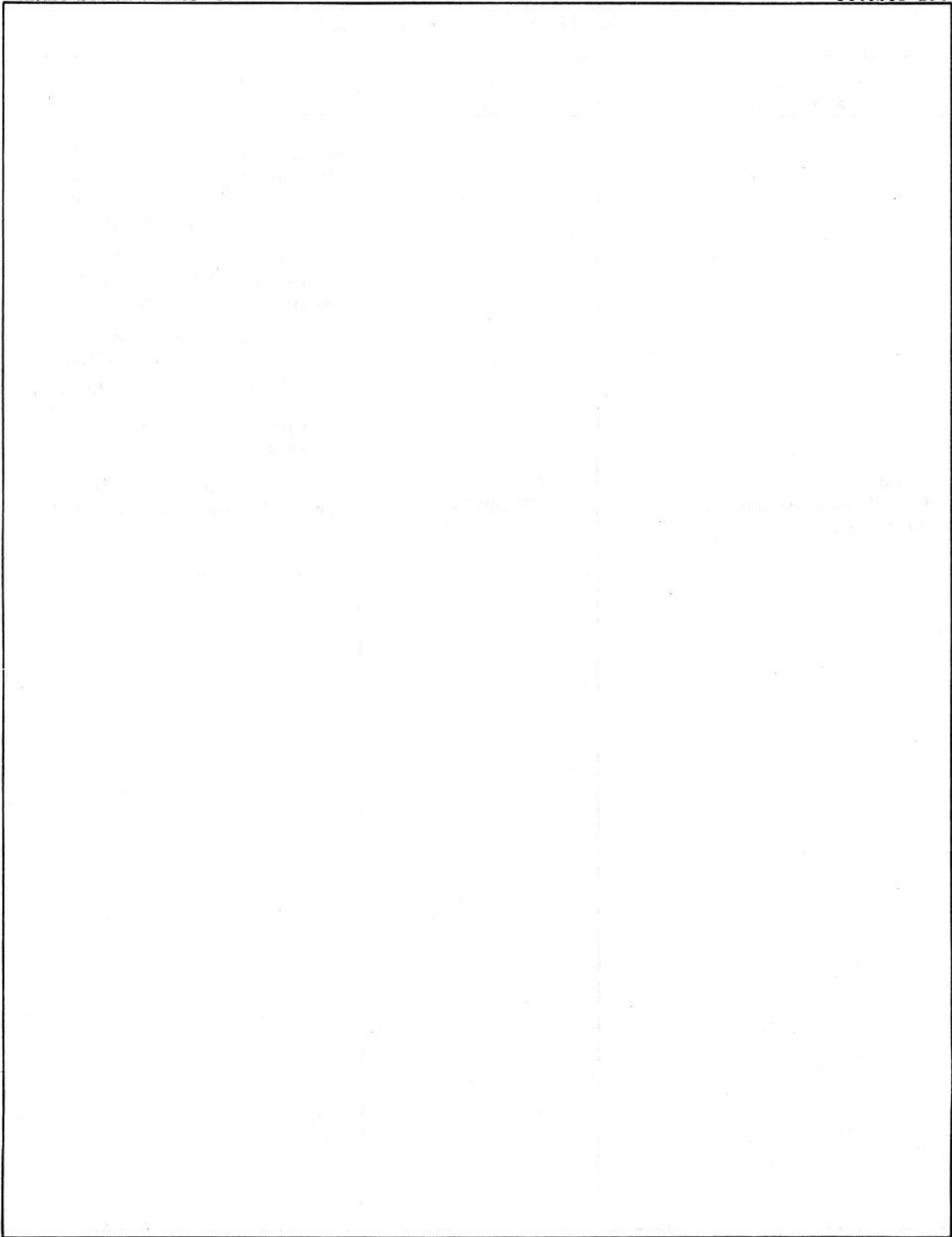
Radio Set AN/MRC-47

October 1961

MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Maintenance for Model TCS transmitting and receiving equipment (Units 46159, 52245, 20218, 20242, and 20309)	Multimeter: 3.5 to 5.0 ma	TS-352( )/U	AN/PSM-4A	NAVSHIPS 900-291-1B paragraphs 5-1 through 5-5.
	Frequency meter: 3.0 MC	LM-18	AN/URM-32	
Operator's maintenance for model TCK-4 Transmitter (Units 20219, and 52214)	Output meter	TS-297/U	TS-585/U	NAVSHIPS 900, 210 paragraphs 1 through 5.
	Signal generator: 450 to 12000 KC	LP-5	AN/URM-25	
Electrical adjustments for TCK-4 Transmitter	No special tools or equipment required			
	Frequency meter: 2000 to 12000 KC	LM-18	AN/URM-32	NAVSHIPS 900, 210, paragraph 7.8.
	Oscilloscope	OS-8( )/U	AN/USM-24( )	
	Audio oscillator: 400 to 1000 CPS	TS-382( )/U	LO-( )	
For test equipment requirements for Radio Receiver R-388/URR refer to the section on the AN/URR-23A.				
For test equipment requirements for Transmitter T-217A/GR, Receiver R-278B/GR, Power Supply MD-129A/GR, Control units C-1335 and C-1337 refer to the section on AN/GRC-48.				

EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
<p>MCO 2005. 18: Modification for remote operation.</p>	<p>NT 20218 NT 20309 NT 23270</p>	<p>No modifications authorized for the following units, Frequency Meter LM-18, Radio Transmitter Navy Type 52299.</p> <p>Refer to section AN/URR-23A for a list of modifications for Radio Receiver R-388/URR.</p> <p>Refer to section AN/GRC-48 for a list of modifications to Radio Receiver R-278B/GR, Modulator Power Supply MD-129A/GR and Radio Transmitter T-217A/GR.</p> <p>New cable assembly connects power to remote control unit.</p>



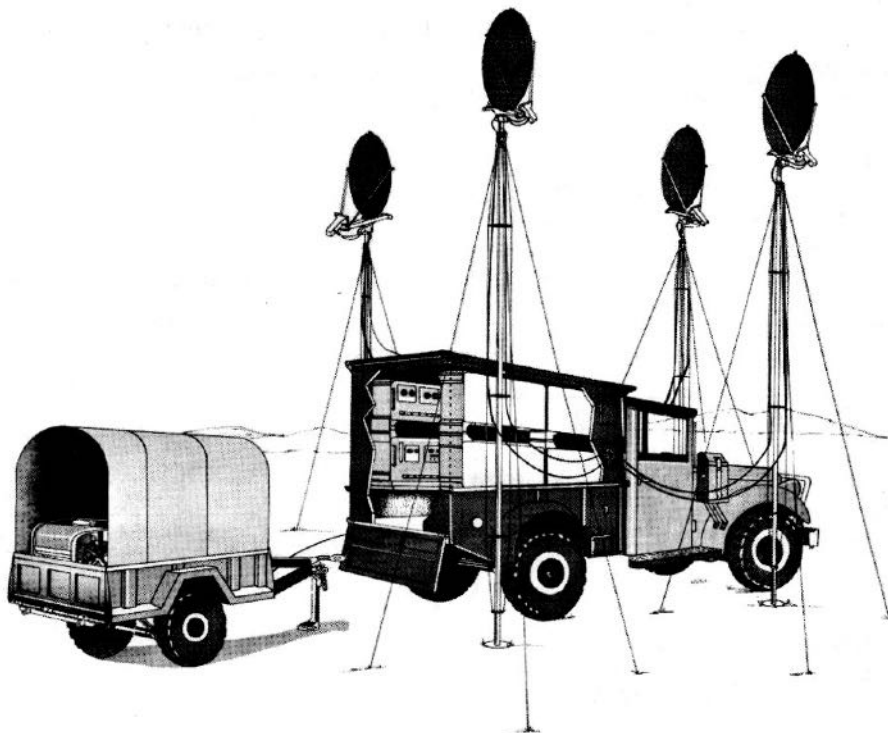


RADIO SETS AN/MRC-60 AND AN/TRC-27

October 1961

Radio Set AN/MRC-60

GENERAL DATA	MAJOR UNITS
<p>F. S. N.: 5820-624-0734                      ID Number: 00729A                      Function: Microwave radio relay                      Manufacturer: Raytheon Company                      Contracts: NObsr 71035, 75107</p> <p>Approximate price: \$27,000.00                      Recommended operational checkout interval: <u>DAILY</u></p>	<p>(4) Receiver Transmitters RT-252/TRC-27                      (8) Multiplexers TD-101/TRC-27                      (4) Antenna Groups OA-1378/GRC                      (2) Diesel Engine Generators PU-345/G                      (4) Gasoline Engine Generators PU-278/TRC-27                      (1) Motor Generator PU-392/GRC                      (1) Shelter S-152/MRC-60                      (1) Truck, 3/4 ton, type M37                      (1) Trailer, cargo, type M101</p>

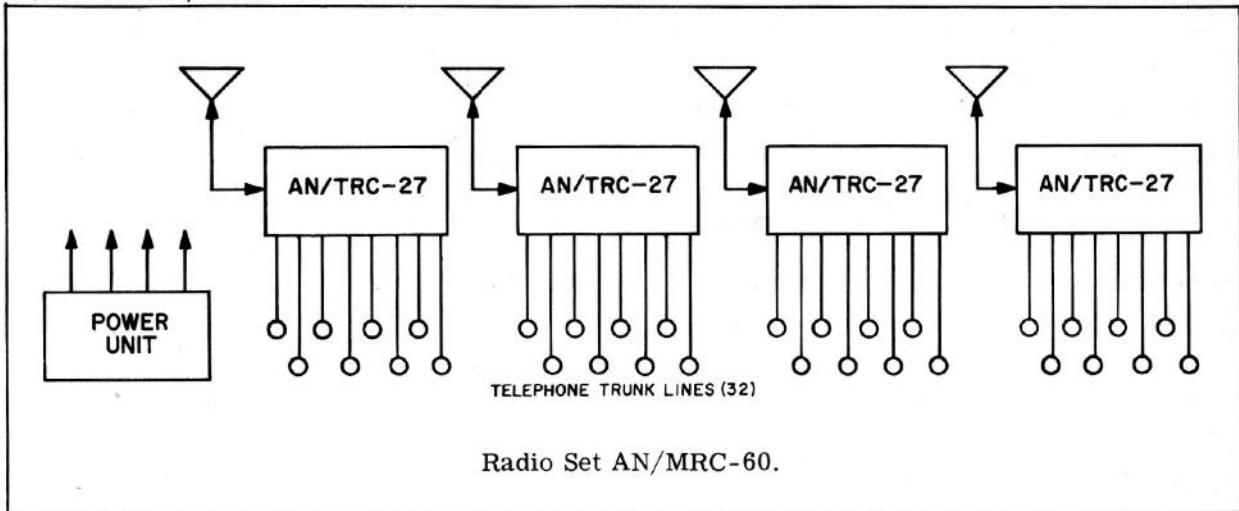


Radio Set AN/MRC-60.

# RADIO SETS AN/MRC-60 AND AN/TRC-27

Radio Set AN/MRC-60

October 1961



OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS																					
<p><b>Use:</b> Multi-hop radio relay link; up to three repeater stations 10 or more miles apart according to terrain and propagation.</p> <p><b>Installation:</b> Mobile, S-152/MRC-60 shelter on an M37 truck with an M101 trailer.</p> <p><b>Used with:</b> Standard telephone and teletype equipment. Telephone may be connected directly to the AN/MRC-60 output terminals. For teletype, use Telegraph Terminal TH-5/TG or equivalent. For simultaneous telephone and teletype operation, use Telegraph Terminal TH-5/TG, Filter F-98/U, and Telegraph-Telephone Signal Converter TA-182/U.</p>	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Frequency range:</td> <td style="width: 50%;">4400-5000 MC.</td> </tr> <tr> <td>Normal power output:</td> <td>1.5 watts peak.</td> </tr> <tr> <td>Type of modulation:</td> <td>Pulse-position.</td> </tr> <tr> <td>Type of multiplexing:</td> <td>Time-division.</td> </tr> <tr> <td>Audio bandwidth:</td> <td>300 to 3500 CPS.</td> </tr> <tr> <td>Ringing frequency:</td> <td>25 CPS.</td> </tr> <tr> <td>Frame frequency:</td> <td>8 KC.</td> </tr> <tr> <td>Number of voice channels:</td> <td>32, (8 for each AN/TRC-27).</td> </tr> <tr> <td>Channel termination:</td> <td>2-wire, 600 ohms.</td> </tr> <tr> <td>Primary power requirements:</td> <td>115 volts, 1 phase, 400 cycles, 2.5 kva.</td> </tr> </table>		Frequency range:	4400-5000 MC.	Normal power output:	1.5 watts peak.	Type of modulation:	Pulse-position.	Type of multiplexing:	Time-division.	Audio bandwidth:	300 to 3500 CPS.	Ringing frequency:	25 CPS.	Frame frequency:	8 KC.	Number of voice channels:	32, (8 for each AN/TRC-27).	Channel termination:	2-wire, 600 ohms.	Primary power requirements:	115 volts, 1 phase, 400 cycles, 2.5 kva.
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<b>SIMILAR EQUIPMENTS</b>																						
<p><b>AN/TRC-27:</b> Basic set comprising the AN/MRC-60. Consists of Receiver-Transmitter RT-252/TRC-27, two Multiplexers TD-101/TRC-27, one Antenna Group OA-1378/GRC, and one Engine Generator PU-278/TRC-27.</p> <p><b>AN/TRC-27A:</b> Same as AN/TRC-27 except that Multiplexer TD-101A/TRC-27 has no external controls on the modems and the MODE selector switch has no NET position.</p> <p><b>AN/MRC-59:</b> The AN/TRC-27 mounted in an M38A1 truck. Power units are the PU-278/TRC-27 and the PU-391/GRC.</p>	<b>PHYSICAL CHARACTERISTICS</b>																					
	Unit	Overall Weight (in lbs)	Cubic Feet																			
	AN/MRC-60	12887 (3/4-ton truck with trailer)	1618																			

October 1961

Radio Set AN/MRC-60

## PUBLICATIONS

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| <p>TB 9-2855-45, Installation of Hot Water Heater Kit, Dec 56.</p> <p>TM 9-207, Oper. Maint Ordmatl in Extreme Cold, Sep 59.</p> <p>TM 9-236, Military Tactical Vehicles, Sep 60.</p> <p>TM 9-1825B, Electrical Equipment Auto-Lite, Nov 52.</p> <p>TM 9-1826A, Carburetors, Dec 52.</p> <p>TM 9-1827C, Brake-Misc Equip Wagner-Lockhead, Jan 53.</p> <p>TM 9-1828A, Fuel Pumps, Ch 1 Dec 52.</p> <p>TM 9-1829A, Ord Maint Speedometers Tachometers, Apr 44.</p> <p>TM 9-1840A, Ord Maint Engine Clutch M37 M43, Jun 52.</p> <p>TM 9-1870-1, Care and Maint of Pneumatic Tires, Ch 1 Feb 55.</p> <p>TM 9-2320-212-20P, Orgn Repair Pts Spcl Tools 3/4-T 4 x 4, Feb 60.</p> <p>TM 9-2810, Tact Motor Veh Preventive Maint, Aug 58</p> <p>NAVSHIPS 93098A Radio Set AN/TRC-27 AN/MRC 59, 60, Apr 58</p> | <p>TM 9-2853, Prep Ord Mil F/Deep Water Fording, Jul 45.</p> <p>TM 9-2853, Prep Ord Mil F/Deep Water Fording, Jul 45, Ch 1.</p> <p>TM 9-6140-200-15, Oper-Org F-D Maint Stor Bat Lead AC, Jul 58.</p> <p>TM 9-8000, Principles of Automotive Vehicles, Jan 56.</p> <p>TM 9-8030, Operation-Organizational Maint, May 55, Ch 1 Mar 56, Ch 2 Dec 57, Ch 3, Ch 4 and Ch 5 Aug 58.</p> <p>TM 9-8031-2, Power Train Body and Frame, May 53, Ch 1 Feb 54, and Ch 2 Jun 56.</p> <p>TM 9-8662, Fuel Burn Heat F/Winter Equipment, Mar 54.</p> <p>TM 21-300, Driver Selection and Training, Dec 58.</p> <p>TM 21-305, Manual for Wheeled Vehicles, Ch 1 Dec 56.</p> <p>TM 11240-1, USMC TM Tactical Mt Veh Prev Maint, Feb 61.</p> <p>SNL-G-748 ORD 7-8 Trailer Cargo 3/4 ton 2 wheel, Apr 60 Ch 1.</p> |
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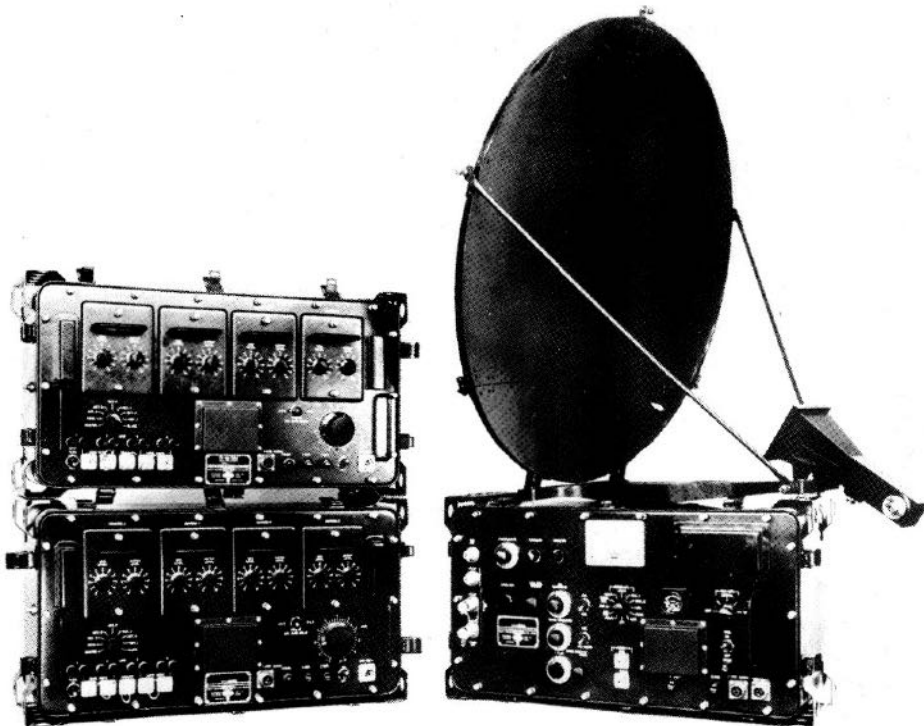


RADIO SETS AN/MRC-60 AND AN/TRC-27

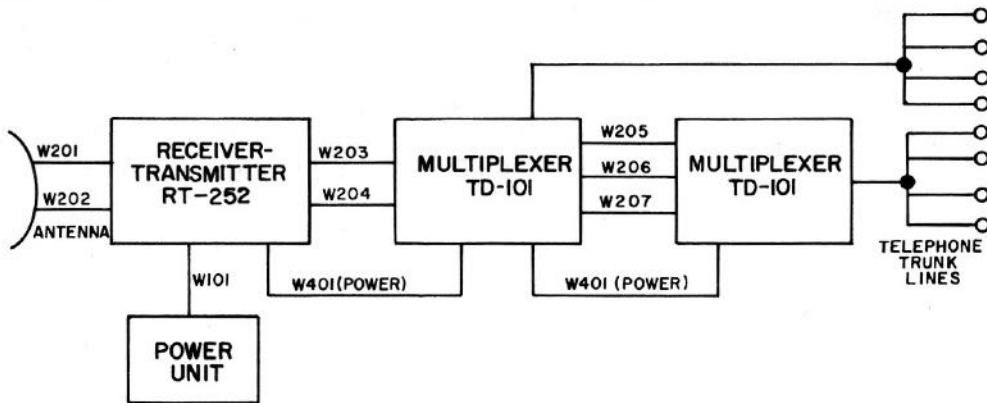
October 1961

Radio Set AN/TRC-27

GENERAL DATA	MAJOR UNITS
<p>F. S. N. : 5820-564-2504                      ID Number: 00006A                      Function: Microwave radio relay                      Manufacturer: Raytheon Company</p> <p>Contracts: NObsr 71035, 75107</p> <p>Approximate price: \$7,800.00                      Recommended operational checkout interval: <u>DAILY</u></p>	<p>(1) Receiver-Transmitter RT-252/TRC-27.                      (2) Multiplexers TD-101/TRC-27.                      (1) Antenna Group OA-1378/GRC.                      (2) Gasoline Engine Generators PU-278/TRC-27.</p>



Radio Set AN/TRC-27



Radio Set AN/TRC-27

OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS							
<p>Use: Multi-hop radio relay link with up to three repeater stations 10 or more miles apart, depending upon terrain and propagation conditions.</p> <p>Installation: Ground transportable.</p> <p>Used with: Standard telephone and teletype equipment. Telephone equipment may be connected directly to the AN/TRC-27 output terminals. For teletype operation use Telegraph Terminal TH-5/TG, or equivalent. For simultaneous telephone and teletype operation, use Telegraph Terminal TH-5/TG, Filter F-98/V, and Telegraph-Telephone Signal Converter TA-182/U.</p>	<p>Frequency range: 4400 to 5000 MC.</p> <p>Normal power output: 1.5 watts peak.</p> <p>Type of modulation: Pulse-position.</p> <p>Type of multiplexing: Time-division.</p> <p>Audio bandwidth: 300 to 3500 CPS.</p> <p>Ringing frequency: 25 CPS.</p> <p>Frame frequency: 8 KC.</p> <p>Number of voice channels: 8 per terminal</p> <p>Channel termination: 2-wire, 600 ohms.</p> <p>Primary power requirements: 115 volts, 1 phase, 400 cycles, 500 VA (approx.).</p>							
<p style="text-align: center;"><b>SIMILAR EQUIPMENT</b></p>	<p style="text-align: center;"><b>PHYSICAL CHARACTERISTICS</b></p>							
<p>AN/TRC-27: All major units are identical with the AN/TRC-27 with the exception of the multiplexers.</p> <p>Multiplexer: TD-101A/TRC-27 has no external controls on the modems and the MODE selector switch has no NET position.</p> <p>AN/MRC-59: One AN/TRC-27 mounted in an M-38A1 truck. Power units are Gasoline Engine Generator PU-278, and 28-VDC to 115-VAC Converter PU-391/GRC.</p> <p>AN/MRC-60: Four AN/TRC-27's mounted in Shelter S-152 on an M37 truck. Power units are one PU-392/GRC, two PU-345G's and four PU-278/TRC-27's.</p>	<table border="1" data-bbox="727 1407 1353 1749"> <thead> <tr> <th>Unit</th> <th>Overall Weight (in lbs)</th> <th>Cubic Feet</th> </tr> </thead> <tbody> <tr> <td>AN/TRC-27</td> <td>659 (in 6 packages)</td> <td>53 (crated)</td> </tr> </tbody> </table>		Unit	Overall Weight (in lbs)	Cubic Feet	AN/TRC-27	659 (in 6 packages)	53 (crated)
Unit	Overall Weight (in lbs)	Cubic Feet						
AN/TRC-27	659 (in 6 packages)	53 (crated)						

RADIO SETS AN/MRC-60 AND AN/TRC-27

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Radio Set AN/TRC-27

PUBLICATIONS

D/L T/A No. 6420 Truck Cargo, Feb 54.	TB 9-248 Rubber Preserv Descript-Application, Sep 58.
LO 9-8030 Lubrication Order, Jul 56.	TB 9-265 Discontinuance Red Paint Mk Lub Pts, Dec 58.
MI-00006A-35/1 Install of Engr Chg Radio AN/TRC-27, Dec 61.	TB 9-282 Combat Veh Protect Insul Comm Equip, Sep 59.
MI-02991A-25/2 Aux Fuel Tank Oper F/PU-278/TRC-27, Jan 62.	TB 9-300-1/1 Combat Veh Insp Care Pres Dur Stor, May 60.
NAVMC Elect-2030 Shelter, Elect Equip S-152/MRC-60, 59.	TB 9-300-1/1 Combat Veh Insp Care Pres Dur Stor, Nov 61, Ch 1.
NAVSHIPS 93098.51 MA Print Radio AN/TRC-27, AN/MRC-59, Oct 58.	TB 9-343 Ord Veh Install-Use Overhaul Plates, Apr 60.
NAVSHIPS 93098A Radio Set AN/TRC-27 AN/MRC-59, 60, Apr 58.	TB 9-1859-2 Time Schedule Guide, Jan 53.
RPL 00729A INT Radio Set AN/MRC-60, Feb 59.	TB 9-1859-2 Time Schedule Guide, Ch 1.
SL-3-00669A Tool Kit Trk 3Ech Spcl Bas 1 M37 M43, Feb 62.	TB 9-1870-1/1 Care Pneumatic Tires and Inner Tube, Jul 56.
SL-3-00670A Tool Kit Trk 4Ech Spcl Bas 1 M37 M43, Feb 62.	TB 9-1870-1/2 Pneum Tires Tubes Flaps Inst Unserv, Feb 57.
SL-3-00684A Tool Kit Org Maint 2Ech Set B Basic, Apr 60.	TB 9-2300-228-20 Trouble Shoot F/Ins Cluster Wiring, Jul 60.
SNL G-249 ORD8 V10 Winterization Equipment M37, Feb 55	TB 9-2855-5 Install Personnel Heat Truck M37, Jul 53.
SNL G-741 ORD 7 Chassis Truck 3/4 Ton 4X4, Jan 57.	TB 9-2855-6 Installation of Power Plant Heater, Sept 53.
SNL G-741 ORD 8 Chassis Truck 3/4 Ton 4X4, Jan 57.	TB 9-2855-45 Installation of Hot Water Heater Kit, Dec 56.
SNL G-741 ORD 9 Truck Cargo M37 M42 M43, Jan 54.	TM 9-207 Oper Maint Ordmatl in Extreme Cold, Sept 59.
SNL G-748 ORD 7-8 Trailer Cargo 3/4 Ton 2 Wheel, Aug 56.	TM 9-236 Military Tactical Vehicles, Sep 60.
SNL G-748 ORD 7-8 Trailer Cargo 3/4 Ton 2 Wheel, Apr 60, Ch 1.	TM 9-1825B Electrical Equipment Auto-Lite, Nov 52.
SNL G-748 ORD 9 Trailer Cargo 3/4 Ton 2 Wheel, Apr 52.	TM 9-1826A Carburetors, Dec 52.
SNL G-758 ORD 7 Truck Utility 1/4 Ton 4X4, Apr 56.	TM 9-1827C Brake-Misc Equip Wagner-Lockhead, Jan 53.
SNL G-758 ORD 8 Truck Utility 1/4 Ton 4X4, Mar 56.	TM 9-1828A Fuel Pumps, Dec 52.
SNL G-758 ORD 9 Truck Utility 1/4 Ton 4X4, Sep 56.	TM 9-1828A Fuel Pumps, Ch 1.
TB ORD 245 Std/Proced Dep O/Haul Ord Tank-Auto, Aug 61.	TM 9-1829A Ord Maint Speedometers Tachometers, Apr 44.
TB ORD 392 Int Lub New Rebuilt Gas Eng B Use, Sep 60.	TM 9-1840A Ord Maint Engine Clutch M37 M43, Jun 52.
TB ORD 460 Liq Cool Eng-Equip Clean Drain Hole, Jul 52.	TM 9-1870-1 Care and Maint of Pneumatic Tires, Feb 55.
TB ORD 485 M Models Servicing Data Plate Corr, Jan 53.	TM 9-1870-1 Care and Maint of Pneumatic Tires, Ch 1.
TB ORD 524 Installed Metal Tanks Clean-Preserv, Jun 53.	TM 9-2320-212-20P Orgn Repair Pts Spcl Tools 3/4T 4X4, Feb 60.
TB ORD 616 Tact-Comm Mover-Trlrs Interveh-Conn, Aug 56.	TM 9-2853 Prep Ord Mtl F/Deep Water Fording, Jul 45.
	TM 9-2853 Prep Ord Mtl F/Deep Water Fording, Ch 1.
	TM-9-6140-200-15 Oper-Org F-D Maint Stor Bat Lead AC, Jul 58.



RADIO SETS AN/MRC-60 AND AN/TRC-27

Revised  
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Radio Set AN/TRC-27

PUBLICATIONS

TM 9-8000 Principles of Automotive Vehicles, Jan 56.  
 TM 9-8030 Operation-Organizational Maint, May 55.  
 TM 9-8030 Operation-Organizational Maint, Mar 56, Ch 1.  
 TM 9-8030 Operation-Organizational Maint, Dec 57, Ch 2.  
 TM 9-8030 Operation-Organizational Maint, Aug 58, Ch 3.  
 TM 9-8030 Operation-Organizational Maint.  
 TM 9-8030 Operation-Organizational Maint.  
 TM 9-8031-2 Power Train Body and Frame, May 53.

TM 9-8031-2 Power Train Body and Frame, Feb 54, Ch 1.  
 TM 9-8031-2 Power Train Body and Frame, Jun 56, Ch 2.  
 TM 9-8662 Fuel Burn Heat F/Winter Equipment, Mar 54.  
 TM 21-300 Driver Selection and Training, Dec 58.  
 TM 21-305 Manual for Wheeled Vehicles, Dec 56.  
 TM 21-305 Manual for Wheeled Vehicles, Ch1  
 TM 11240-1 USMC TM Tactical Mt Veh Prev Maint, Feb 61.

RADIO SETS AN/MRC-60 AND AN/TRC-27

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Radio Set AN/TRC-27

MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Receiver-Transmitter RT-252/TRC-27				
Receiver alignment	Sweep signal generator: sweep centered at 60 MC.	TS-452C/U		NAVSHIPS 93098(A), Section 7, paragraphs 5a(1) through 5a(4) and 5a(7).
	VTVM: 0-10 VDC	TS-505/U	ME-25( )/U	NAVSHIPS 93802, paragraphs 2-3e through 2-3e(3) (c).
	Alignment adaptor	TS-1310/TRC-27		NAVSHIPS 93098(A), Figure 7-32.
	Crystal simulator	TS-1310/TRC-27		NAVSHIPS 93098(A), Figure 7-33.
	Oscilloscope	AN/USM-24( )	AN/USM-79	
	RF attenuators: 90 db 4400-5000 MC. two required.		RG-21/U cable*	
	Electronic AC voltmeter: 0-0.4 V RMS.	ME-30B/U	ME-6( )/U	
	Audio oscillator: 600 ohms, 1 KC.	TS-382( )/U	LO-( )	
	Signal generator: 4400-5000 MC.	AN/URM-52	SG-408/URM-136	
	Pulse signal generator: 8 KC PRF, 0.5 usec, 50 V amplitude.	AN/UPM-15	Multiplexer TD-101** SG-408/URM-36	
<p>* Two 90-foot lengths of RG-21/U cable may be used as 90-db RF attenuators for this test.</p> <p>** Multiplexer TD-101/TRC-27 may be used as a pulse generator.</p>				

RADIO SETS AN/MRC-60 AND AN/TRC-27

Radio Set AN/TRC-27

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MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Calibration of receiver-transmitter dials	Wavemeter: 4400-5000 MC, ± 0.05%.	TS-1310/ TRC-27	RT-252/ TRC-27*	NAVSHIPS 93802, paragraphs 2-3b(1) through 2-3b(4). NAVSHIPS 93098(A), Section 7, para- graph 5a(5).
Transmitter power	Power meter: 0-3 W peak (4400-5000 MC), ± 3 db.	TS-1310/ TRC-27	HP 430C** HP 477B**	NAVSHIPS 93802, paragraph 2-3c.
Multiplexer TD-101/TRC-27				
Multiplexer	Oscilloscope:  Audio oscillator: 600 ohms, 1000 CPS. Electronic AC voltmeter: 0-10 V RMS Multimeter: 20,000 ohms/volt, general purpose.	AN/USM- 24( )  TS-382 ( )/U ME-30/U  AN/PSM-4A	AN/USM-79  LO ME-6( )/U  Simpson 269	NAVSHIPS 93098(A), Section 7, para- graphs 5a(8) and 5a(9).
Gasoline Engine Generator PU-278/TRC-27				
Operator's maintenance	No special equip- ment required.			NAVSHIPS 93098(A).
Diesel Engine Generator PU-345/G (AN/MRC-60 only)				
Maintenance				NAVMC ELECT 2015
Motor Generator PU-392/GRC (AN/MRC-60 only)				
Maintenance				NAVSHIPS 93098(A), Section 5, para- graph 3c.
<p>*One accurately calibrated Receiver-Transmitter RT-252/TRC-27 may be used for field calibration.</p> <p>**For greater accuracy, Hewlett-Packard Power Meter 430C and Thermistor Mount 477B may be used to measure average power. Peak power may be computed by taking into account the duty cycle of the equipment.</p>				

RADIO SETS AN/MRC-60 AND AN/TRC-27

Revised  
April 1962

Radio Set AN/TRC-27

EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
MCO 2005. 69 Sup 2 To prevent damage to 1403.	All multiplexers TD-101/TRC-27 and TD-101A/TRC-27.	The position of L403 and R504 are interchanged, placing L403 clear of panel retaining screw.
MI-00006A-35/1 Installation of engineering changes.	TD-101( )/TRC RT-252/TRC-27	Resistor R-228 180, 000 ohm replaced by one 180, 000 ohn 1/2 watt; capacitor C-576 100 uuf installed between pins 1 and 3 of Tube Socket XU-553.
MI-00006A-15/2 Protection of RF jacks.	RT-252/TRC-27	Installation of adapter connectors UG-27C/U on antenna jacks.
MI-02991A-25/2	PU-278/TRC-27	Installation of thread adapter on petcock of the fuel tank for the auxiliary flexible fuel line.
MI-00006A-15/4 Cover marking.	RT-252/TRC-27	The decal on cover of receiver-transmitter indicates the position in which the cover should be placed to prevent damage to the transmitter filter control knob.

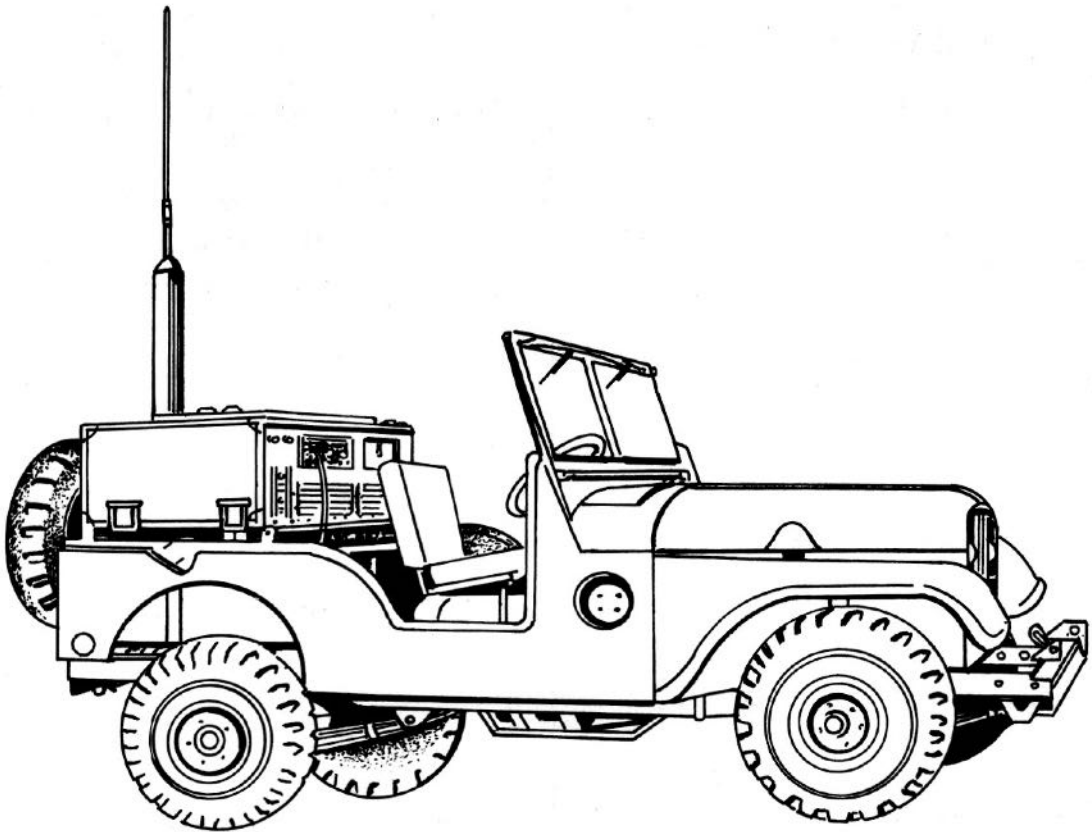
Radio Set AN/TRC-

RADIO SET AN/MRC-83

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Radio Set AN/MRC-83

GENERAL DATA		MAJOR UNITS	
F. S. N:	5820-629-8244	(1)	Antenna AT-1011/U
ID Number:	02474A	(1)	Mast Base MP-47-A
Function:	Two-way voice, CW and teletype communications.	(1)	Mast Bracket, mast base support MT-657/GRC
Manufacturer:	Collins, Cedar Rapids, Ia.	(1)	Special Purpose Cable Assembly, Collins Radio Co. part no. 545895300.
Contracts:	NOM 71001	(1)	Power Supply Case CY-2695/MRC
Approximate price:	\$25,000.00	(1)	Handset H-33E/PT
Recommended operational checkout interval:	<u>DAILY</u>	(1)	Telegraph Key J-45.
		(1)	Loudspeaker LS-166/U
		(1)	Generator System Modification Kit Ordnance part no. 5702025
		(1)	Power Supply PP-2352/UR
		(1)	Radio Set AN/TRC-75
		(1)	Utility Truck, 1/4-ton, 4 x 4 M38A1



Radio Set AN/MRC-83

# RADIO SET AN/MRC-83

Radio Set AN/MRC-83

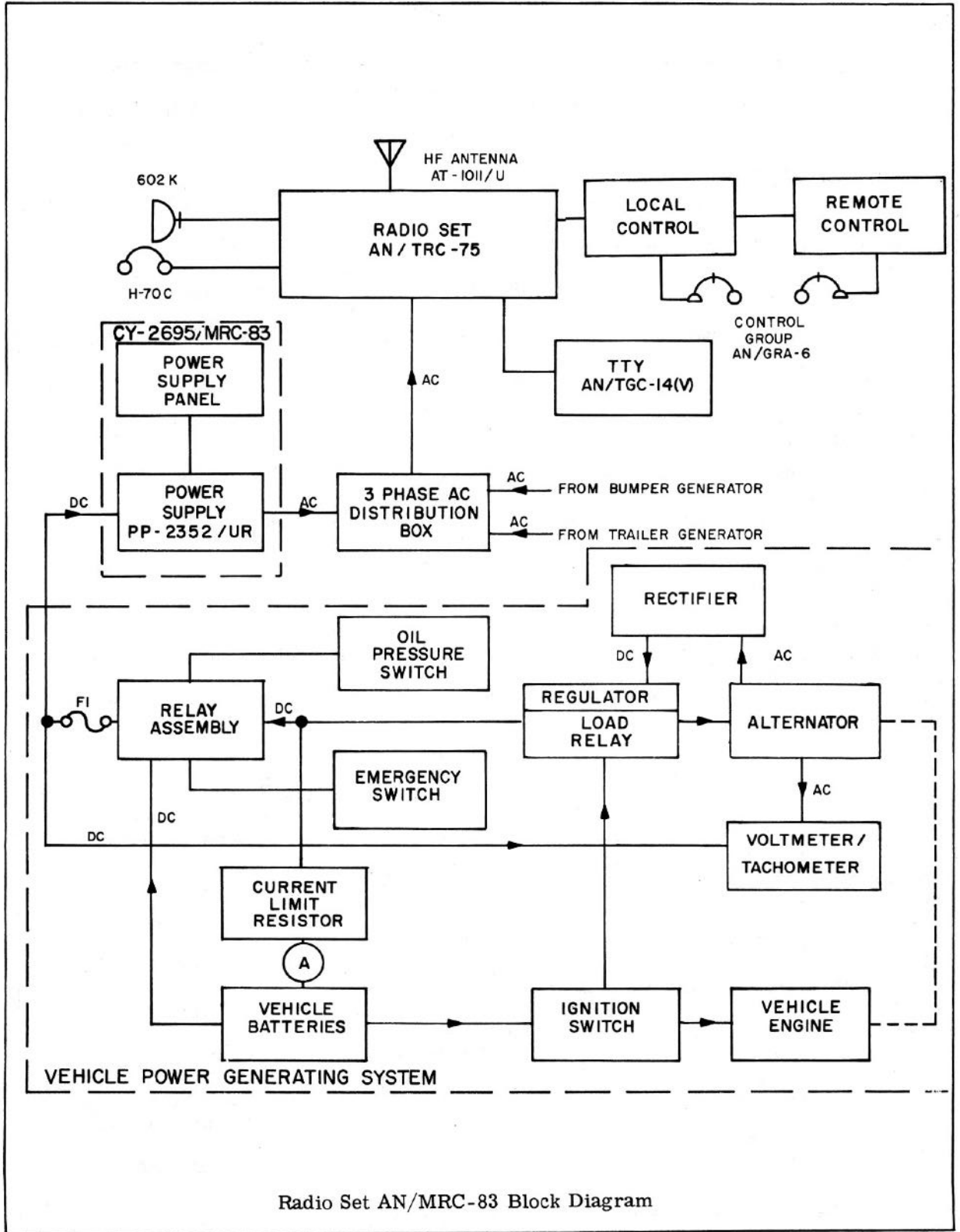
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OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS		
<p>Use: Radio Set AN/MRC-83 uses transceiver principles to operate as both a transmitter and receiver. Single-sideband techniques provide an RF spectrum-conserving communications system, that has a better signal-to-noise ratio than conventional amplitude modulation (AM). Suppression of the RF carrier results in more power being delivered for transmission in the intelligence-carrying portion of the signal, also the signal is less susceptible to tactical interference (jamming), and selective fading.</p> <p>Used with: Control Group AN/GRA-6, Teletypewriter Set AN/TGC-14 (V) (optional).</p> <p>Installation: Mobile.</p>	<p>Frequency: 2.0 to 29.999 MC.</p> <p>Types of emission and reception: AM, SSB, DSB, CW, FSK.</p> <p>Channels: 28,000 at 1 kilocycle increments.</p> <p>Primary power: 115 V, 400 CPS, 3 phase, 2.5 KW, 90% PF or 26 to 29 VDC at 10 to 135 amp.</p> <p>Input power (380 to 420 CPS)</p> <p>Stand-by: 380 watts.</p> <p>Tuning: 1,200 watts.</p> <p>Transmit: 1,200 watts (SSB voice) 1,800 watts (AM) 2,000 watts (CW, FSK)</p> <p>Tuning method: Automatic; servo control.</p>		
SIMILAR EQUIPMENTS	PHYSICAL CHARACTERISTICS		
<p>Radio Set AN/TRC-75.</p>	<p>Unit</p> <hr/> <p>AN/MRC-83</p>	<p>Overall Weight (in lbs)</p> <hr/> <p>3100 (Mounted in 1/4-ton 4 x 4 utility truck M38A1)</p>	<p>Cubic Feet</p> <hr/> <p>296</p>

RADIO SET AN/MRC-83

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Radio Set AN/MRC-83



Radio Set AN/MRC-83 Block Diagram



Radio Set AN/MRC-83

## PUBLICATIONS

LO 9-8014, Truck Utility 1/4 Ton 4x4, Mar 56	SNL G-249 ORD 8 V40, Winterization Equipment, Jan 55.
MI-00490A-35/1, CW Keying Circuitry for AN/TRC-75, Feb 62.	SNL G-758 ORD 7, Truck Utility 1/4 Ton 4x4, Apr 56.
MI-5820-35/13, Rev Voltage Reg Mtg AN/MRC-83, 87, Nov 61.	SNL G-758 ORD 8, Truck Utility 1/4 Ton 4x4, Mar 56.
MI-5820-35/28, Volt Regulat Circuitry AN/MRC-83, 87, Jan 62.	SNL G-758 ORD 9, Truck Utility 1/4 Ton 4x4, Sep 56.
NAVMC ELECT 2040, Radio Set AN/TRC-75, Dec 59.	TB ORD 245, STD/Proced Dep O/Haul Ord Tank-Auto, Aug 61.
NAVMC ELECT 2040, Radio Set AN/TRC-75, Feb 61, Ch 1.	TB ORD 392, Int Lub New Rebuilt Gas Eng B Use, Sep 60.
NAVMC ELECT 2041, Radio Set AN/TRC-75, Dec 59.	TB ORD 460, Liq Cool Eng-Equip Clean-Drain Hole, Jul 52.
NAVMC ELECT 2041, Radio Set AN/TRC-75, Feb 61, Ch 1.	TB ORD 485, M Models Servicing Data Plate Corr, Jan 53.
NAVMC ELECT 2048, Power Supply PP-2352/UR, Feb 60.	TB ORD 524, Installed Metal Tanks Clean-Preserv, Jun 53.
RPL 02365A, Generator Set Die Eng PU-454/G, Nov 59.	TB ORD 616, Tact-Comm Mover-Trlrs Interveh Conn, Aug 56.
RPL 02365A, Gen Set Diesel Eng Pu-454/G, Sep 61, Ch 1.	TB 9-248, Rubber Preserv Descript-Application, Sep 58.
SC-EL-00490A, Suppt Concept SSB Com Sys AN/MRC-83, May 60.	TB 9-265, Discontinuance Red Paint Mk Lub Pts, Dec 58.
SL-3-00667A, Tool Kit Trk 3 Ech Fld M38A1 M170, Feb 62.	TB 9-282, Combat Veh Protect Insul Comm Equip, Sep 59.
SL-3-00668A, Tool Kit Fld Maint 4 Ech Spcl Basic, Apr 60.	TB 9-300-1/1, Combat Veh Insp Care Pres Our Stor, May 60.
SL-3-00683A, Tool Kit Org Main 2 Ech Set B Basic, Jan 62.	TB 9-300-1/1, Combat Veh Insp Care Pres Our Stor, Nov 61, Ch 1.
SL-3-02409A, Test Set Radio AN/GRM-21, Mar 61.	TB 9-343, Ord Veh Install-Use Overhaul Plates, Apr 60.
SL-3-02474A, Radio Set AN/MRC-83, Feb 61.	TB 9-1859-20, Time Schedule Guide, Dec 53.
SL-3-02598A, Test Set Radio TS-1325/TRC-75, Apr 61.	TB 9-1859-20, Time Schedule Guide, Ch 1.
SL-3-02600A, Test Set Coupl Contr TS-1324/TRC-75, Apr 61.	TB 9-1870-1/1, Care Pneumatic Tires and Inner Tube, Jul 56.
SL-4-00490A, Vol I Radio Set AN/TRC-75, Feb 62.	TB 9-1870-1/2, Pneum Tires Tubes Flaps Inst Unserv, Feb 57.
SL-4-00490A, Vol II, Radio Set AN/TRC-75, Feb 62.	TB 9-2300-228-20, Trouble Shoot F/Ins Cluster-Wiring, Jul 60.
SL-4-02409A, Test Set Radio AN/GRM-21, Aug 60.	TB 9-2855-43, Installation of Personnel Heater, Nov 56.
SL-4-02474A, Radio Set AN/MRC-83, Sep 60.	TI-02917A-35/1, Overvolt Circuit Adjust PP-2352/UR, Feb 62.
SL-4-02474A, Radio Set AN/MRC-83, Feb 61, Ch 1.	TM 9-207, Oper Maint Ordmatl in Extreme Cold, Sep 59.
SL-4-02598A, Test Set Radio TS-1325/TRC-75, Oct 60.	TM 9-236, Military Tactical Vehicles, Sep 60.
SL-4-02600A, Test Set Coupl Contr TS-1324/TRC-75, Oct 60.	TM 9-1825B, Electrical Equipment Auto-Lite, Nov 52.
	TM 9-1826A, Carburetors, Dec 52.

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Radio Set AN/MRC-83

## PUBLICATIONS

TM 9-1827C, Brake- Misc Equip Wagner-Lockhead, Jan 53.	TM 9-8015-1, Ord Maint Eng-Clutch 1/4T 4x4 M38A1, Mar 54.
TM 9-1828A, Fuel Pumps, Dec 52.	TM 9-8015-1, Ord Maint Eng-Clutch 1/4T 4x4 M38A1, Apr 55, Ch 1.
TM 9-1828A, Fuel Pumps, Ch 1.	TM 9-8015-2, Ord Maint Pwr Tr Body-Fend 1/4T 4x4, Aug 54.
TM 9-1829A, Ord Maint Speedometers Tachometers, Apr 44.	TM 9-8015-2, Ord Maint Pwr Tr Body-Fend 1/4T 4x4, Ch 1.
TM 9-1870-1, Care and Maint of Pneumatic Tires, Feb 55.	TM 9-8015-2, Ord Maint Pwr Tr Body-Fend 1/4T 4x4, Ch 2.
TM 9-1870-1, Care and Maint of Pneumatic Tires, Ch 1.	TM 9-8627, Electrical Equipment Delco-Remy, Jun 53.
TM 9-2320-209-20P, Organizational Repair Prts Sp Tools, Apr 59.	TM 9-8627, Electrical Equipment Delco-Remy, Ch 1.
TM 9-2320-209-20P, Organizational Repair Prts Sp Tools, Ch 1.	TM 9-8662, Fuel Burn Heat F/Winter Equipment, Mar 54.
TM 9-2853, Prep Ord Mtl F/Deep Water Fording, Jul 45.	TM 10-500-10, Air Dly of Sup-Equip Rig M38A1, Apr 58.
TM 9-2853, Prep Ord Mtl F/Deep Water Fording, Ch 1.	TM 10-500-10, Air Dly of Sup-Equip Rig M38A1, Ch 1.
TM 9-6140-200-15, Oper-Org F-D Main Stor Bat Lead-Ac, Jul 58.	TM 10-500-10, Air Dly of Sup-Equip Rig M38A1, Ch 2.
TM 9-8000, Principles of Automotive Vehicles, Jan 56.	TM 21-300, Driver Selection and Training, Dec 58.
TM 9-8014, Oper-Org Maint 1/4 Ton 4x4 M38A1, Apr 55.	TM 21-305, Manual F/Whl Vehicle Driver, Dec 56.
TM 9-8014, Oper-Org Maint 1/4 Ton 4x4 M38A1, Jun 58, Ch 3.	TM 21-305, Manual F/Whl Vehicle Driver, Ch 1.
TM 9-8014, Oper-Org Maint 1/4 Ton 4x4 M38A1, Ch 4.	TM 11240-1, USMC TM Tactical Mt Veh Prev Maint, Feb 61.
TM 9-8014, Oper-Org Maint 1/4 Ton 4x4 M38A1, Ch 5.	

# RADIO SET AN/MRC-83

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## MAINTENANCE DATA

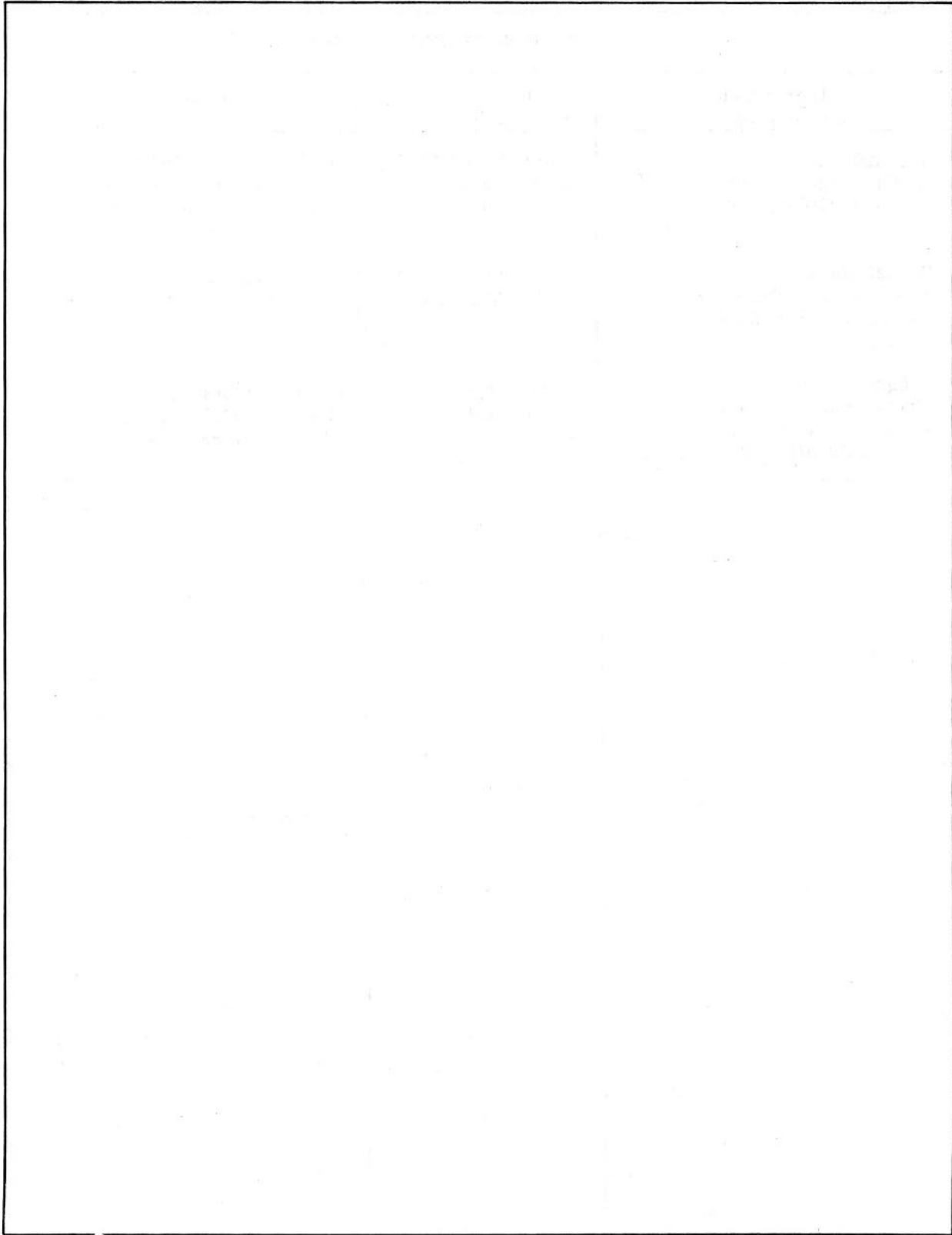
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
	Refer to the section on the AN/TRC-75 for test equipment requirements.			

RADIO SET AN/MRC-83

Revised  
April 1962

Radio Set AN/MRC-83

EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
MI-00490A-35/1 Instructions for faster keying in CW operation.	Case CY-2600/TRC-75 procured on No. 71001.	Number 22 stranded wire connected from pin 7 of the CW relay (K1) to the ground lug of the relay.
MI-5820-35/13 Prevention of shock damage to the voltage regulator.	Voltage regulator of AN/MRC-83 and 87.	Repositioned voltage regulator bracket.
MI-5820-35/28 Prevention of damage to electrical systems of Radio Sets AN/MRC-83 and 87.	Voltage regulator of AN/MRC 83 and 87.	Installation of a diode 1N539 or 1N538 within the voltage regulator.

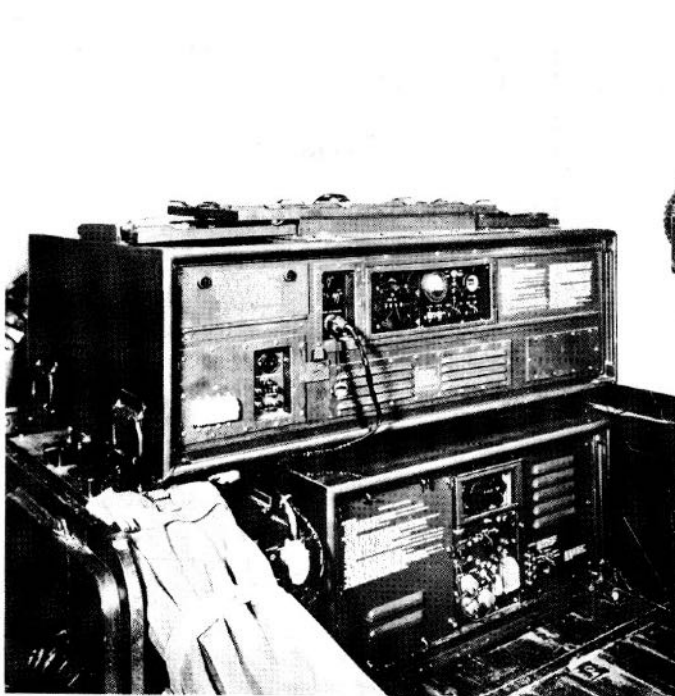


RADIO SET AN/MRC-87

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Radio Set AN/MRC-87

GENERAL DATA		MAJOR UNITS	
F. S. N:	5820-712-8590	(1)	Antenna AS-390/SRC
ID Number:	02903A	(1)	Antenna AT-1011/U
Function:	Two-way voice, CW and MCW communi- cations.	(1)	Bag BG-176
Manufacturer:	Collins Radio Co. Cedar Rapids, Ia.	(1)	Bracket MT-657/GRC
Contracts:	NOM 71001	(1)	Case CY-2897/MRC-87
Approximate price:	\$30,000.00	(1)	Radio Set Control AN/GRA-6
Recommended operational checkout interval:	<u>DAILY</u>	(1)	Handset H-33E/PT
		(1)	Installation kit
		(1)	UHF Antenna Installation Kit
		(1)	Telegraph Key J-45
		(1)	Loudspeaker LS-166/U
		(1)	UHF Antenna Mast
		(1)	Modification Kit Mk-484/MRC
		(1)	Power Supply PP-2352/UR
		(1)	Radio Set AN/ARC-55
		(1)	Radio Set AN/TRC-75
		(1)	Ground Rod
		(1)	Utility Truck M-170



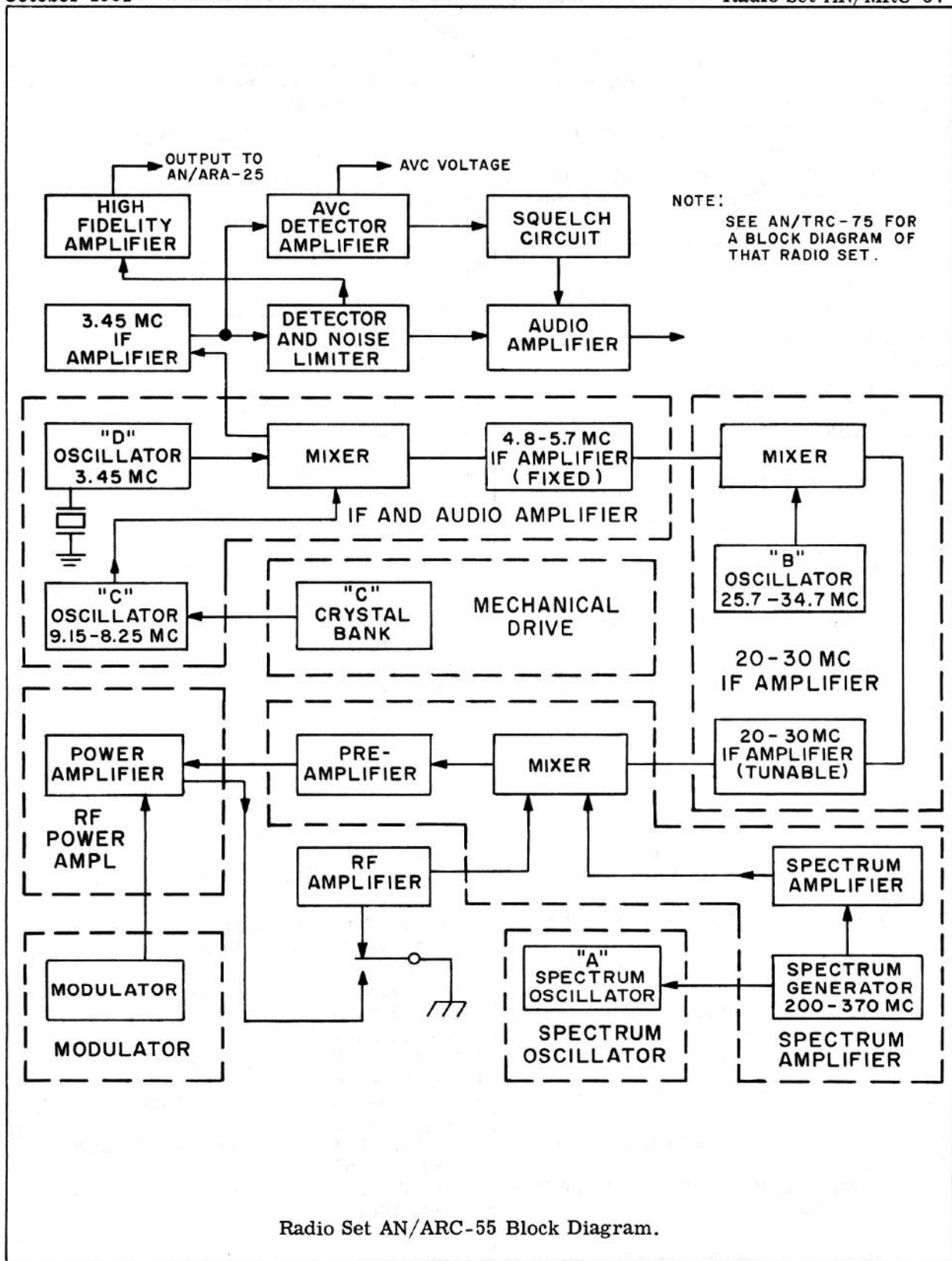
Radio Set AN/MRC-87.

RADIO SET AN/MRC-87

Radio Set AN/MRC-87

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OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS		
<p>Use: Radio Set AN/MRC-87 provides mobile radio transmitting and receiving facilities in the HF and UHF bands. It consists of Radio Sets AN/TRC-75 and AN/ARC-55 mounted in an M-170 vehicle with associated power supplies. It provides ground radio communication at 2-30 MC, SSB, AM, CW, and MCW, and ground-to-air communication at 225-400 MC, AM.</p> <p>Used with:</p> <p>Installation: Mobile</p>	<p>Modulation modes: Voice Continuous-wave (CW) Teletypewriter (TTY, FSK).</p> <p>Primary power required: 115 volts <math>\pm</math> 6 volts (line to neutral), three phase, 400 CPS <math>\pm</math> 20 CPS, 2.5 KW, 90% PF.</p> <p>Audio power output: Maximum 1.5 watts.</p> <p>High power output: SSB: 900 watts PEP 2.0 to 15.0 MC; 750 watts PEP 15.0 to 29.999 MC. AM 180 watts. CW and FSK: (TTY): 700 watts 2.0 to 15.0 MC; 700 watts 15.0 to 29.999 MC.</p>		
SIMILAR EQUIPMENTS			
Radio Sets AN/TRC-75 and AN/ARC-55.	<p>Low power output: SSB: 100 to 200 watts PEP. AM: 40 to 80 watts. CW and FSK (TTY): 100 watts.</p>		
TECHNICAL CHARACTERISTICS			
<p>AN/ARC-55</p> <p>Power input: 27.5 VDC.</p> <p>Receiver output:</p> <p>Audio power: 50 mw.</p> <p>Signal-to-noise ratio: 6 db.</p> <p>Resistive load: 300 ohms.</p> <p>RF input: 5 uv.</p> <p>Modulation: 30% at 1000 CPS.</p> <p>Maximum audio output: 2 W approx.</p> <p>Transmitter output:</p> <p>Frequency range: 225.0 to 399.9 MC.</p> <p>Carrier power: 9 W.</p> <p>Modulation: 90 to 95 percent.</p>	<p>Receiving characteristics:</p> <p>Sensitivity: SSB: 1 uv maximum to 10 db signal plus noise-to-noise ratio at standard conditions. AM: 3 uv maximum for 10 db signal plus noise-to-noise ratio at standard conditions.</p>		
<p>AN/TRC-75</p> <p>Frequency range: 2.0 to 29.999 megacycles.</p> <p>Frequency channels: 28,000 channels available at one-kilocycle increments.</p>	PHYSICAL CHARACTERISTICS		
	Unit	Overall Weight (in lbs)	Cubic Feet
	AN/MRC-87	2963 Mounted in utility truck M-170	1133



NOTE:  
SEE AN/TRC-75 FOR  
A BLOCK DIAGRAM OF  
THAT RADIO SET.

Radio Set AN/ARC-55 Block Diagram.



RADIO SET AN/MRC-87

Radio Set AN/MRC-87

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MAINTENANCE DATA					
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions	
		Preferred	Alternate		
AN/ARC-55 Organizational maintenance	Wattmeter: 9 watts	AN/URM-43	Bird Co Model *	NAVPERS 16-30ARC. 27-502, Section V, paragraph 5-8.	
	Milliammeter: 0 to 1 ma	TS-80/U	ME-29/U*		
	VTVM: 0 to 10 VDC	TS-375/U	TS-505/U		
	Signal generator: 225 to 399.9 MC	H. P. Model 608B	AN/URM-26()		
	Output meter: 0 to 6 db	TS-297/U	TS-585/U ME-30C		
	Audio oscillator: 1000 CPS	TS-382()/U	LO-()		
	Oscilloscope	OS-8()/U	OS-10/U*		
	AN/ARC-55 Alignment procedure and final adjustments	Multimeter: 0 to 440 VDC	AN/PSM-4A		TS-352()/U
VTVM: 0 to 5 VDC and 0 to 5 VAC		TS-375/U	TS-505/U		
Signal generator: 3.45 to 21.2 MC		LP-3	AN/URM-25()		
Frequency meter: 3.45 to 21.2 MC		LM-14	AN/URM-32		
Milliammeter: 0 to 1 ma		TS-80/U	ME-29/U		
Signal generator: 225 to 399.9 MC		HP Model 608B	AN/URM-26()		
Output meter: 500 milliwatts		TS-297/U	TS-585/U ME-30C		
Refer to section on AN/TRC-75 for list of test equipment requirements.					
AN/TRC-75		Refer to section on AN/TRC-75.			
		* Non T/A item			

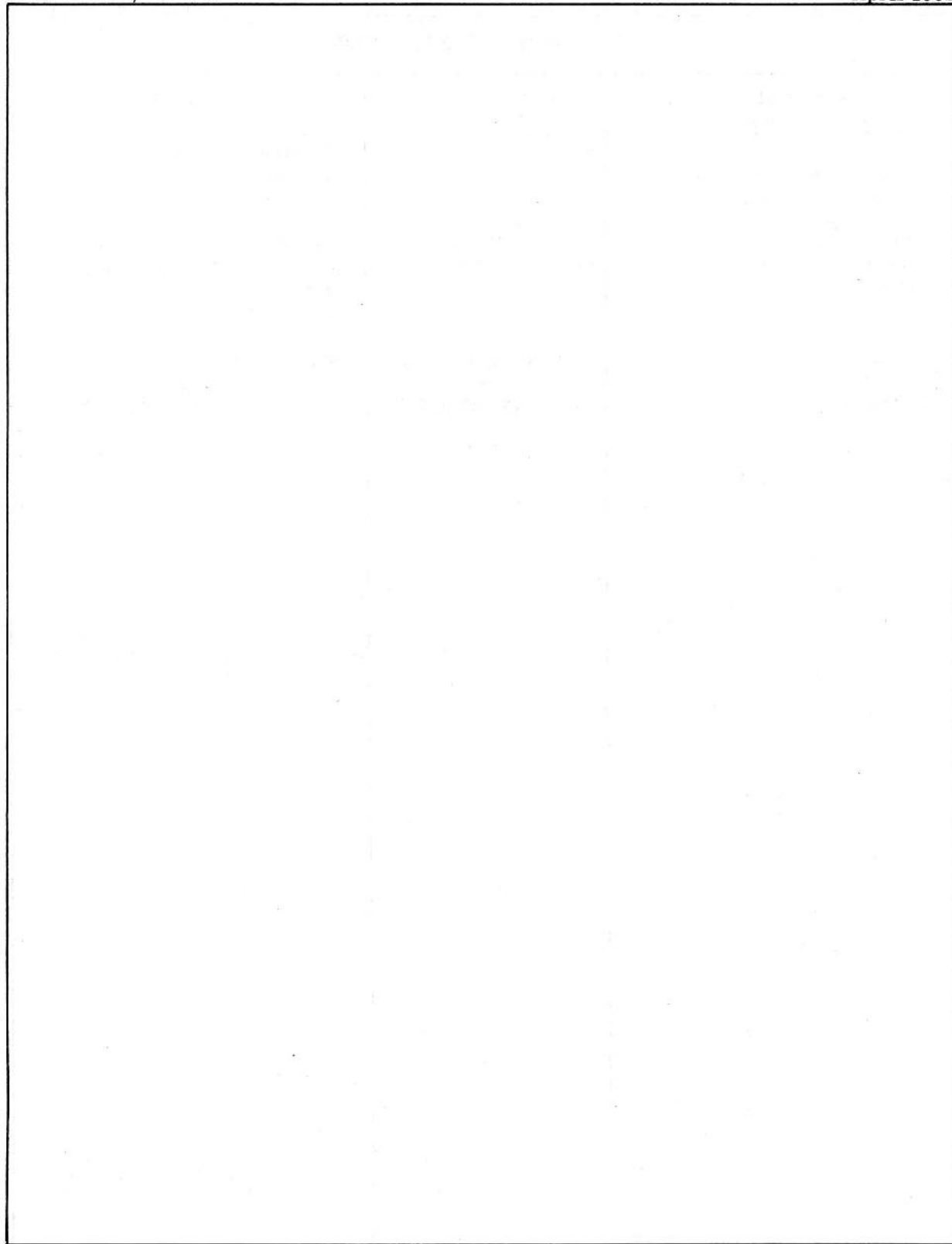
RADIO SET AN/MRC-87

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Radio Set AN/MRC-87

EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
MI-5820-35/13 Revision of voltage regulator mounting.	AN/MRC-87	Relocation of the voltage regulator.
MI-490A-35/1 Provisions for faster keying in CW operation.	Radio Set Case CY-2600/TRC-75	Stranded number 22 plastic jacket connected between pin 7 of relay K1 and ground lug of relay K1.
MI-5820-35/28 Prevention of damage to electrical system.	Voltage regulator of Radio Sets AN/MRC-83 and 87	Installation of diode 1N538 between the main relay and J20 in the voltage regulator.

Radio Set AN/MRC-87

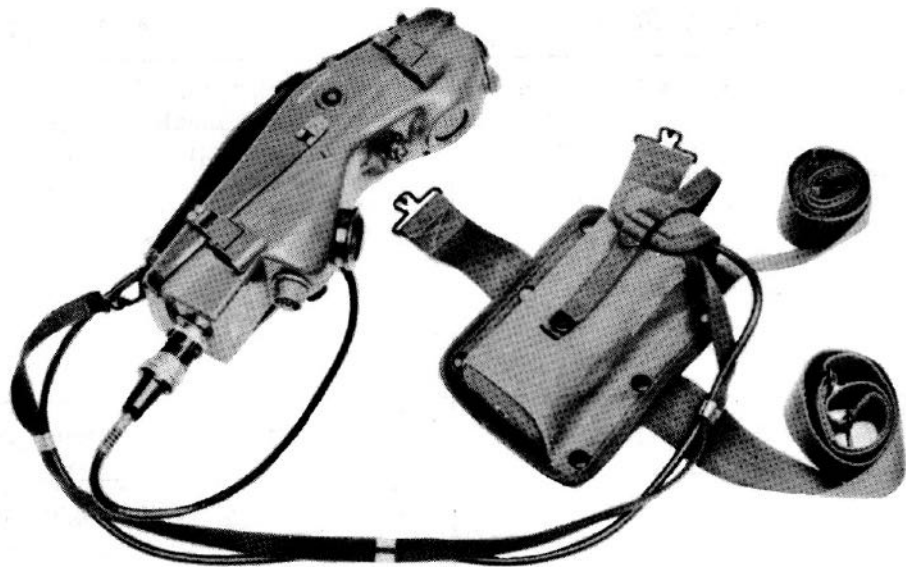


RADIO SET AN/PRC-6

October 1961

Radio Set AN/PRC-6

GENERAL DATA	MAJOR UNITS
<p>F. S. N.: 5820-194-9928                      ID Number: 00083A                      Function: Two-way voice communications.                      Manufacturer: Utilities Electronics, Newark, N. J.                      Contracts: Order #23441-PH-50</p> <p>Approximate price: \$200                      Recommended operational checkout interval: <u>DAILY</u></p>	<p>(1) Radio Receiver-Transmitter, RT-196/PRC-6.                      (1) Crystal Unit CR-23/U.                      (1) Handset H-33C/PT.</p>

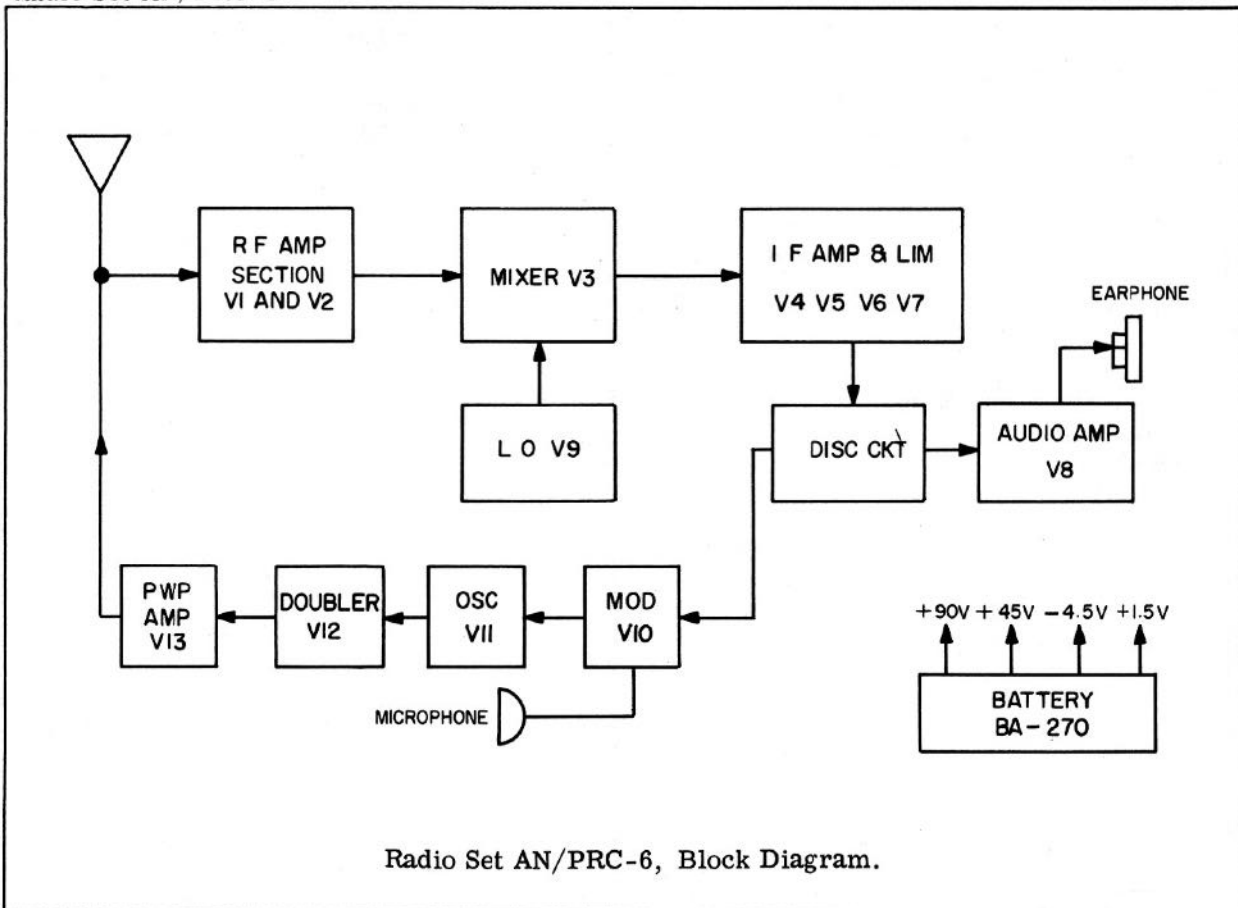


Radio Set AN/PRC-6.

# RADIO SET AN/PRC-6

Radio Set AN/PRC-6

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OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS						
<p>Use: Radio Set AN/PRC-6 is a low-power short-range equipment which operates in the VHF range for line-of-sight communication by forward elements of armored, infantry, and artillery units.</p> <p>Use with: The AN/PRC-6 is capable of communication with various radio sets.</p> <p>Installation: Portable.</p>	<p>Frequency range: 47 to 55.4 MC</p> <p>Number of channels: 43</p> <p>Type of modulation: FM</p> <p>Type of signal: Voice</p> <p>Power output: 0.25 watt</p> <p>Power requirements: Battery BA-270/U</p>						
SIMILAR EQUIPMENT	PHYSICAL CHARACTERISTICS						
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 25%;">Unit</th> <th style="width: 50%;">Overall Weight (in lbs)</th> <th style="width: 25%;">Cubic Feet</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">AN/PRC-6</td> <td style="text-align: center;">6.5</td> <td style="text-align: center;">0.26 (crated)</td> </tr> </tbody> </table>	Unit	Overall Weight (in lbs)	Cubic Feet	AN/PRC-6	6.5	0.26 (crated)
Unit	Overall Weight (in lbs)	Cubic Feet					
AN/PRC-6	6.5	0.26 (crated)					

RADIO SET AN/PRC-6

Revised  
April 1962

Radio Set AN/PRC-6

PUBLICATIONS

SL-3-00154A, Crystal Unit Quartz  
CK-6/PRC-6, Dec 61.

SL-3-00083A Radio Set AN/PRC-6, Jan 61.

TM 11-296 Radio Set AN/PRC-6, Operational  
and Organizational Maintenance, Sep 55.

TM 11-296 Radio Set AN/PRC-6, Operational  
and Organizational Maintenance, Dec 55,  
Ch 1.

TM 11-296 Radio Set AN/PRC-6, Operational  
and Organizational Maintenance, May 57,  
Ch 2.

TM 11-4069 Radio Set AN/PRC-6 Field  
Maintenance, Sep 55.

TM 11-4069 Radio Set AN/PRC-6 Field  
Maintenance, May 57, Ch 1.

TM 11-5820-355-35P Radio Set AN/PRC-6,  
Jan 60.

TM 11-5820-355-35P Radio Set AN/PRC-6,  
Sep 60, Ch 1.

TM 11-5965-202-12P Handsets H-33/PT  
Series, Jan 60.

TM 11-5965-202-35 Handsets H-33/PT  
Series, May 59.

TM 11-5965-202-35P Handsets H-33E,  
F/PT, Jan 61.

RADIO SET AN/PRC-6

Radio Set AN/PRC-6

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MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Channel alignment and final testing	Channel alignment indicator	ID-292/PRC-6		TM 11-4069, Chapter 5, Section I, paragraph 58 through Section II, paragraph 60.
	VTVM: 2 to 90 VDC	TS-505/U	ME-25()/U	
	Multimeter: 0 to 50 ma	AN/PSM-4	TS-352()/U	Chapter 6 paragraph 62 through 70.
	Signal generator: 4.275 to 4.325 MC	AN/URM-25()	AN/URM-26()	
	Signal generator: 47 to 55 MC, 12 to 30 KC deviation.	AN/URM-48		
	Audio oscillator: 1000 CPS	TS-382A/U	LO - series *LAJ-4	
	Frequency meter: 4.275 to 55 MC	AN/URM-32	*TS-174B/U	
	Panoramic indicator	IP-173/U	*Panoramic Products Model T-2-1000	
Electronic multimeter: 0-5 volts	ME-6A/U	TS-505/U ME-25()/U		
Organizational maintenance	Multimeter	TS-297/U	AN/PSM-4A TS-352()/U	TM 11-296 Chapter 5, paragraph 28 through 34.
	Electron tube tester	TV-7/U	*TV-4/U *TV-3/U	

\* Not a T/A item.

RADIO SET AN/PRC-6

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Radio Set AN/PRC-6

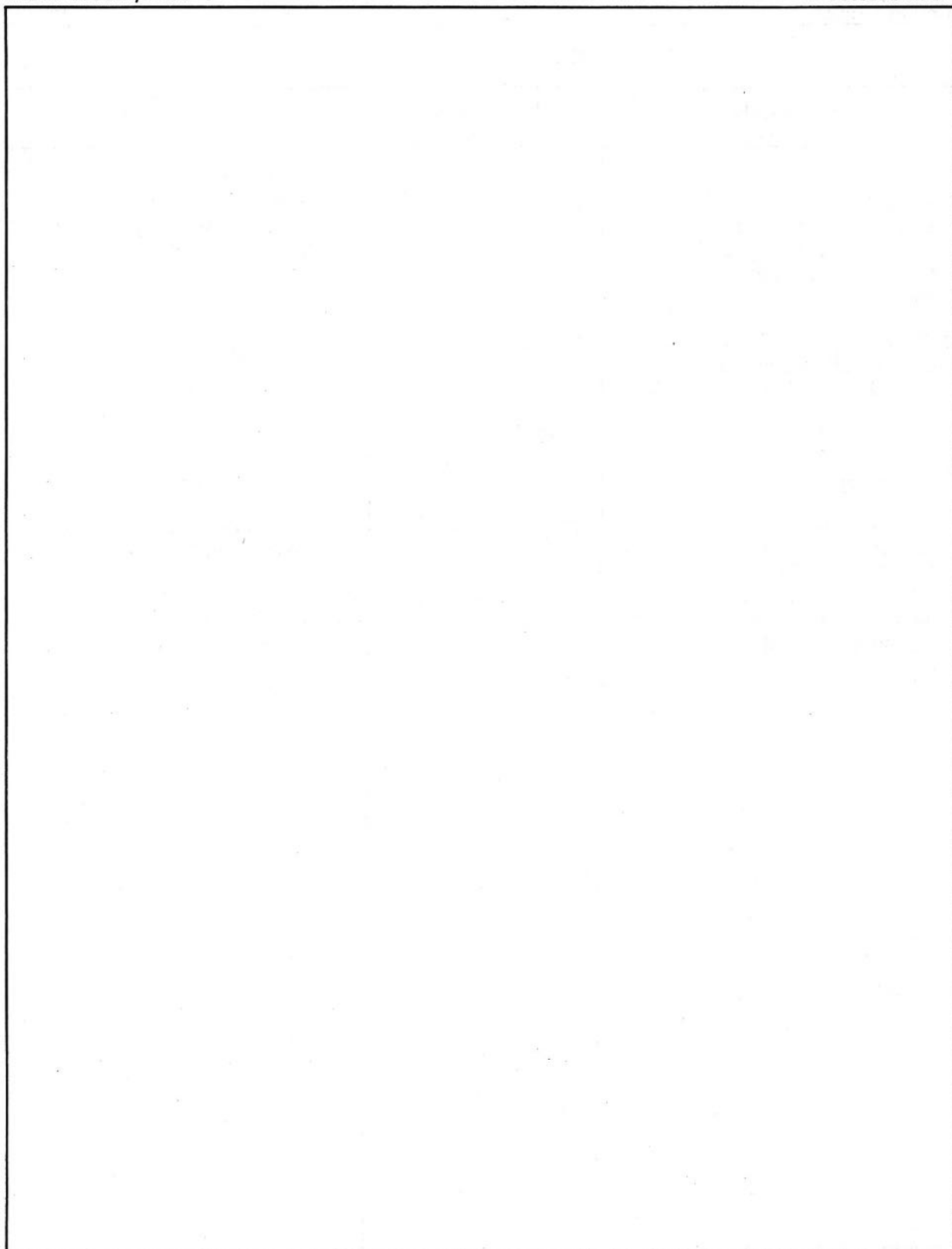
EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
MCO 2005.21, Sup. 2: Battery retainer to prevent battery plug from becoming disengaged from battery socket.	AN/PRC-6	New parts required: Battery retainer assembly, Emerson Radio Corp, Parts AS-1695.
MCO 2005.36: Channel alignment indicator record of supplement	ID-292/PRC-6	
MCO 2005.36, Sup. 1: ID-292/PRC-6 list of publications.	ID-292/PRC-6	
MCO 2005.36, Sup. 2: Calibration ID-292/PRC-6	ID-292/PRC-6	Replace 1-ohm resistor R14 with 2.7-ohm resistor.
MCO 2005.36, Sup. 3: Modification of Channel Alignment Indicator ID-292/PRC-6.	ID-292/PRC-6	Replace R7 with 12-kilohm resistor. Replace R10 with 22-kilohm resistor.



RADIO SET AN/PRC-6

Radio Set AN/PRC-6

October 1961

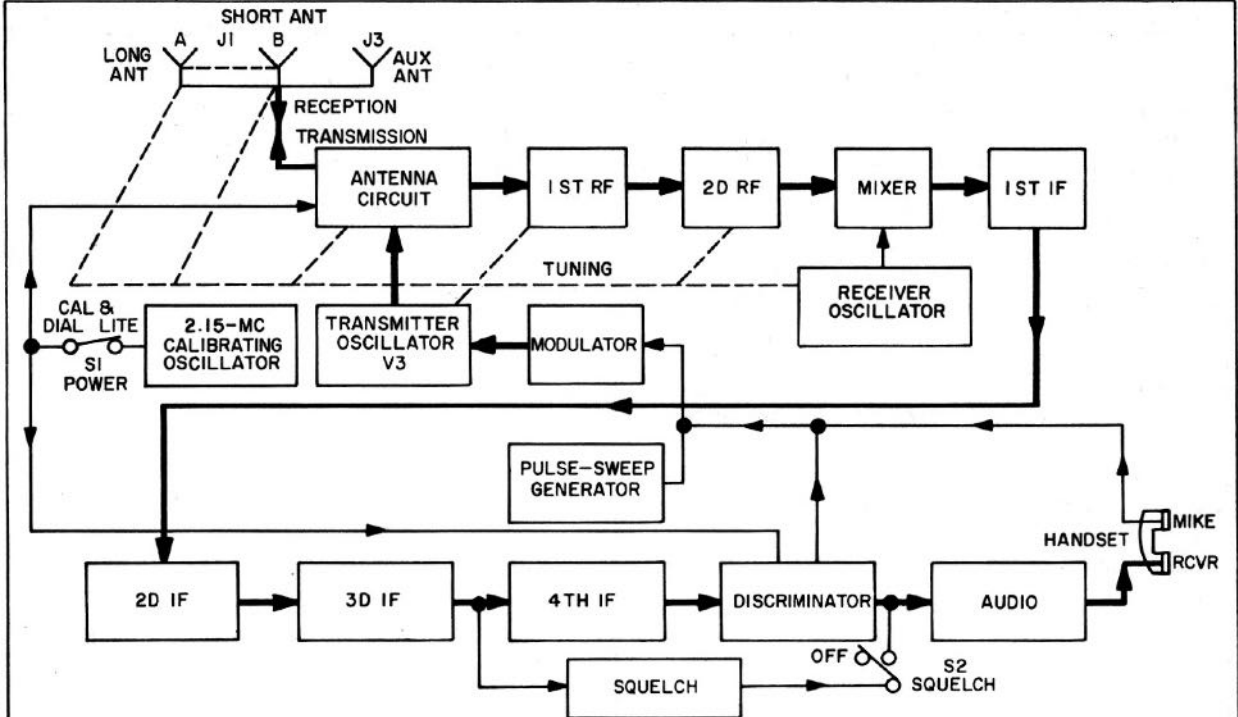




RADIO SETS AN/PRC-8, AN/PRC-9, AND AN/PRC-10

Radio Set AN/PRC-8

October 1961



Radio Set AN/PRC-8 Block Diagram.

OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS								
<p>Use: Radio Set AN/PRC-8 is a lightweight portable radio set. Provisions are made for homing use, remote operation, and unattended relay operation using two sets. Designed as a one-man pack load, the set weighs 26 pounds.</p> <p>Used with: Amplifier Power Supply AM-598/U when installed in a vehicle, also Control Group AN/GRA-6.</p> <p>Installation: Portable, vehicular, aircraft.</p>	<p>Frequency range: 20 to 27.9 MC.</p> <p>Power source:                      Man pack: Battery BA-279/U.                      Vehicular: Amplifier Power Supply AM-598/U.</p> <p>Distance range: About 3 miles.</p> <p>Weight: 26 pounds.</p> <p>Signal type: Voice, frequency modulated.</p>								
SIMILAR EQUIPMENTS	PHYSICAL CHARACTERISTICS								
<p>Radio Sets AN/PRC-9, AN/PRC-9A, AN/PRC-10, and AN/PRC-10A, except for frequency range.</p>	<table border="1"> <thead> <tr> <th>Unit</th> <th>Overall Weight (in lbs)</th> <th>Cubic Feet</th> </tr> </thead> <tbody> <tr> <td>AN/PRC-8</td> <td>100</td> <td>6 (crated)</td> </tr> </tbody> </table>	Unit	Overall Weight (in lbs)	Cubic Feet	AN/PRC-8	100	6 (crated)		
Unit	Overall Weight (in lbs)	Cubic Feet							
AN/PRC-8	100	6 (crated)							

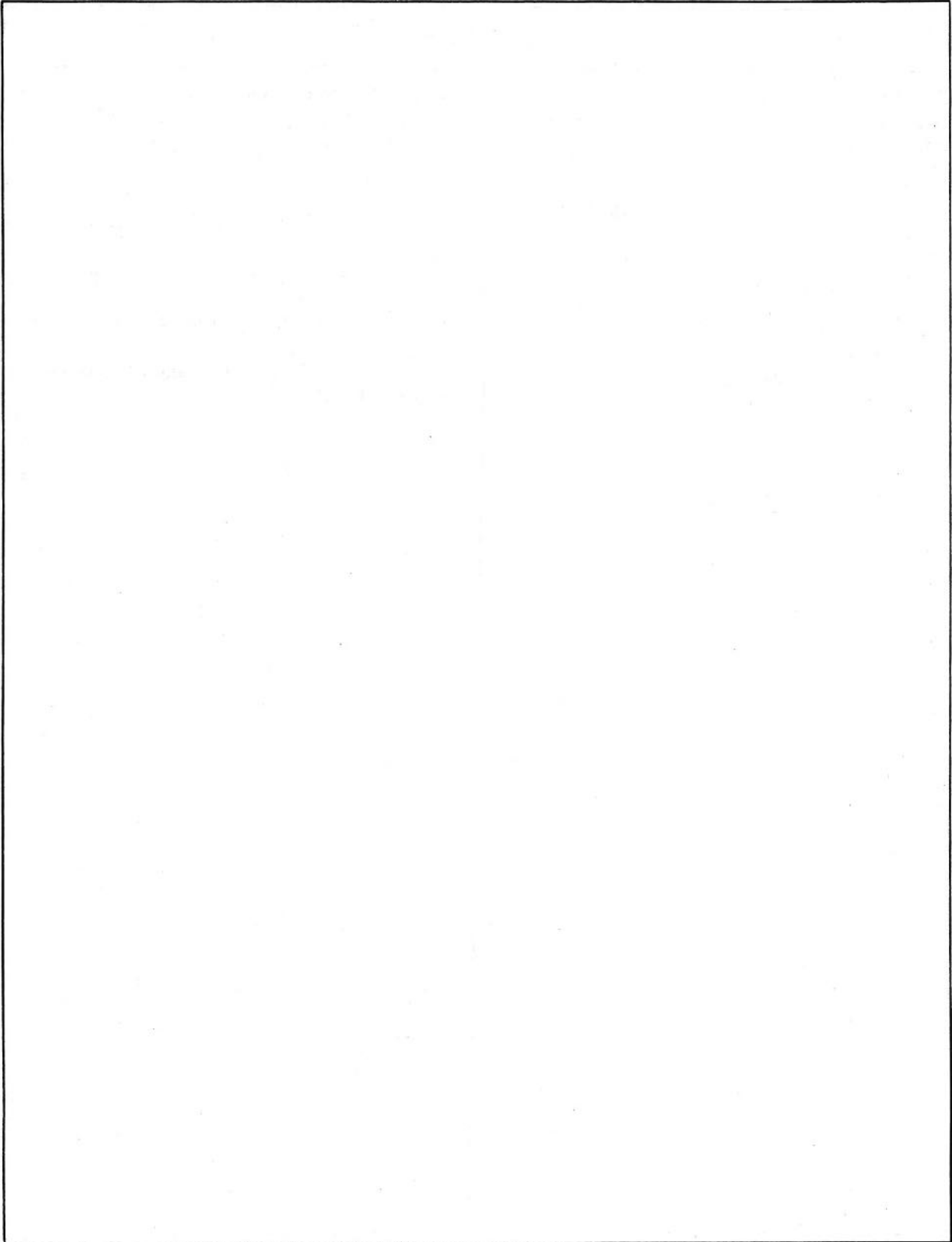
Revised  
April 1962

Radio Set AN/PRC-8

## PUBLICATIONS

D/L VOL I, Bag CW-437/PR, Jun 58.  
 D/L VOL II, Radio Set AN/PRC-8, Sep 55.  
 SIG 7-8, Amplifier AM-427/U, Dec 57.  
 SIG 7-8, Antenna AT-271/PRC, AT-271A/PRC  
 Feb 58.  
 SIG 7-8, Radio Set AN/PRC-8, AN/PRC-8A,  
 Jul 58 and Ch 1 Apr 60.  
 SIG 7-8, Transformer Discriminator  
 TF/132/U, Dec 57.  
 MI-5820-25/2, Runner Mtg Battery Case  
 CY-744/PRC, Dec 61.  
 TI-5820-25/1, Rpr/Plug-in Units AN/PRC-8  
 Thru 10A, Dec 61.

TM 11-612, Radio Sets AN/PRC-8,  
 AN/PRC-8A, AN/PRC-9, AN/PRC-9A,  
 AN/PRC-10, AN/PRC-10A, and  
 AN/PRC-28, Dec 54, Ch 1 Dec 55,  
 and Ch 2 Sep 56.  
 TM 11-4065, Radio Sets AN/PRC-8,  
 AN/PRC-9 and AN/PRC-10 Fld Maint,  
 Sep 54 and Ch 1.  
 TM 11-5965-202-12P, Handsets H-33/PT  
 series, Apr 59.  
 TM 11-5965-202-35, Handsets H-33/PT  
 series, May 59.  
 TM 11-5965-202-35P, Handsets H-33E/PT  
 and H-33F/PT, Jan 61.

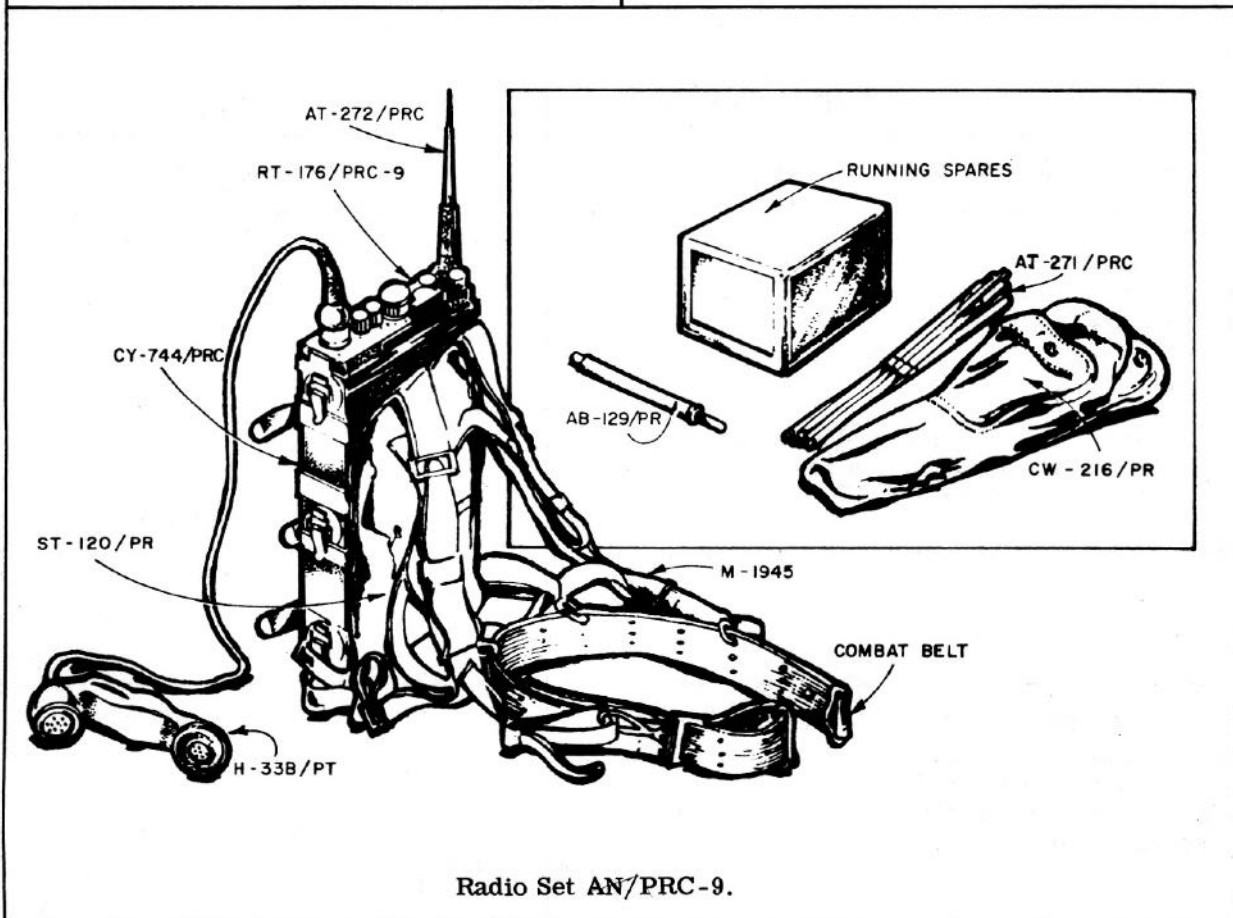


RADIO SETS AN/PRC-8, AN/PRC-9, AND AN/PRC-10

October 1961

Radio Set AN/PRC-9

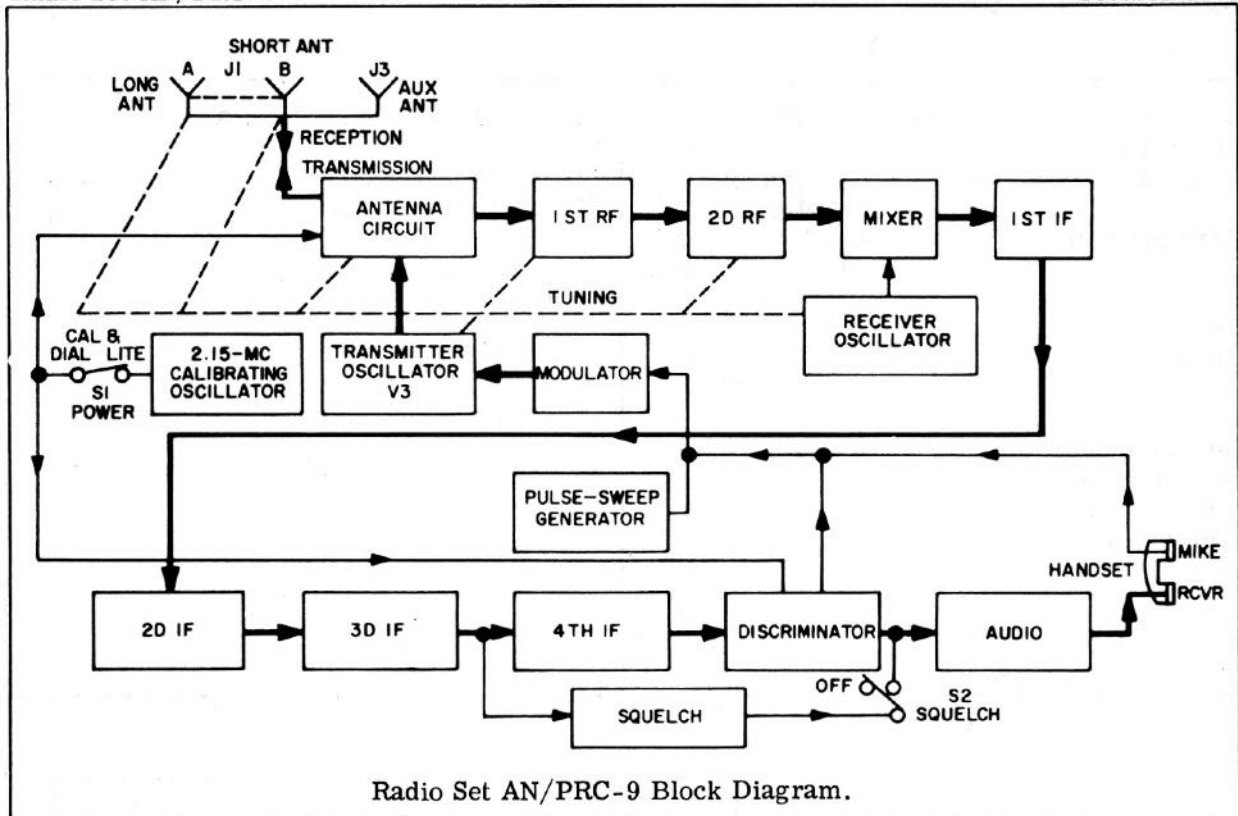
GENERAL DATA		MAJOR UNITS	
F. S. N:	5820-254-9334	(1)	Radio Receiver-Transmitter RT-175/PRC-9
ID Number:	00085A	(1)	Case CY-744/PRC
Function:	Two-way voice communications.	(1)	Antenna AT-271/PRC
Manufacturer:	Radio Corporation of America, Camden, N. J.	(1)	Antenna AT-272/PRC
		(1)	Handset H-33B/PT
Contracts:	DA-36-039-SC-1391 DA-36-039-SC-9395		
Approximate price:	\$500.00		
Recommended operational checkout interval:	<u>DAILY</u>		



RADIO SETS AN/PRC-8, AN/PRC-9, AND AN/PRC-10

Radio Set AN/PRC-9

October 1961



OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS		
<p>Use: Radio Set AN PRC-9 is a lightweight portable radio set. Provisions are made for homing use, remote operation, and unattended relay operation using two sets. Designed as a one-man pack load, the set weighs 26 pounds.</p> <p>Used with: Amplifier Power Supply AM-598/U when installed in a vehicle, also Control Group AN/GRA-6.</p> <p>Installation: Portable, vehicular, aircraft.</p>	<p>Frequency range: 27 to 38.9 MC.</p> <p>Power source:                      Man pack: Battery BA-279/U.                      Vehicular: Amplifier Power Supply AM-598/U.</p> <p>Distance range: About 3 miles.</p> <p>Weight: 26 pounds.</p> <p>Signal type: Voice, frequency modulated.</p>		
SIMILAR EQUIPMENTS	PHYSICAL CHARACTERISTICS		
<p>Radio Sets AN/PRC-8, AN/PRC-8A, AN/PRC-10, and AN/PRC-10A, except for frequency range.</p>	Unit	Overall Weight (in lbs)	Cubic Feet
	AN/PRC-9	100	6 (crated)

RADIO SETS AN/PRC-8, AN/PRC-9, AND AN/PRC-10

Revised  
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Radio Set AN/PRC-9

PUBLICATIONS

MI-5820-25/2, Runner Mtg Battery Case  
CY-744/PRC, Dec 61.  
SIG 7-8, Amplifier AM-427/U, Dec 57.  
SIG 7-8, Antenna AT-271/PRC,  
AT-271A/PRC, Feb 58.  
SIG 7-8, Radio Set AN/PRC-9,  
AN/PRC-9A, Aug 58.  
SIG 7-8, Transformer Discriminator  
TF-132/U, Dec 57.  
SL-3-00085, Radio Set AN/PRC-9,  
AN/PRC-9A, Sep 61.  
SIG 7-8, Radio Set AN/PRC-9, AN/PRC-9A,  
Jun 61.  
TI-5820-25/1, RPR/Plug-In Units  
AN/PRC-8 Thru 10A, Dec 61.  
TM 11-612, Radio Set AN/PRC-8, A, 9, A, 10,  
A, 28, Dec 54

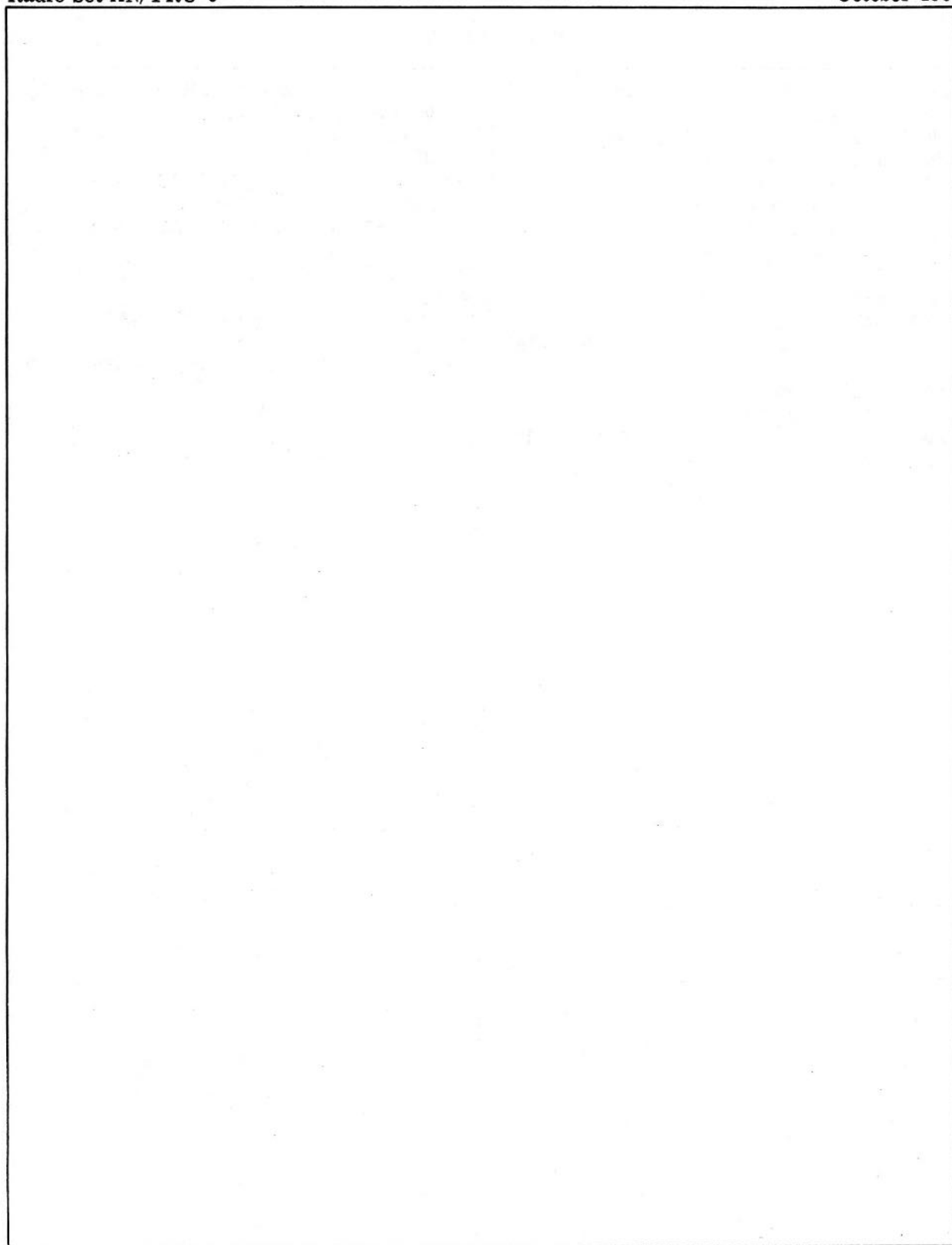
TM 11-612, Radio Set AN/PRC-8, A, 9, A, 10,  
A, 28, Dec 55, Ch 1.  
TM 11-612, Radio Set AN/PRC-8, A, 9, A, 10,  
A, 28, Dec 56, Ch 2.  
TM 11-4065, Radio Set AN/PRC-8, 9, 10  
Fld Maint, Sep 54.  
TM 11-4065, Radio Set AN/PRC-8, 9, 10  
Fld Maint, Ch 1.  
TM 11-5965-202-12P, Handsets H-33/PT  
Series, Apr 59.  
TM 11-5965-202-35, Handsets H-33/PT  
Series, May 59.  
TM 11-5965-202-35P, Handsets H-33E, F/PT,  
Jan 61.



RADIO SETS AN/PRC-8, AN/PRC-9, AND AN/PRC-10

Radio Set AN/PRC-9

October 1961

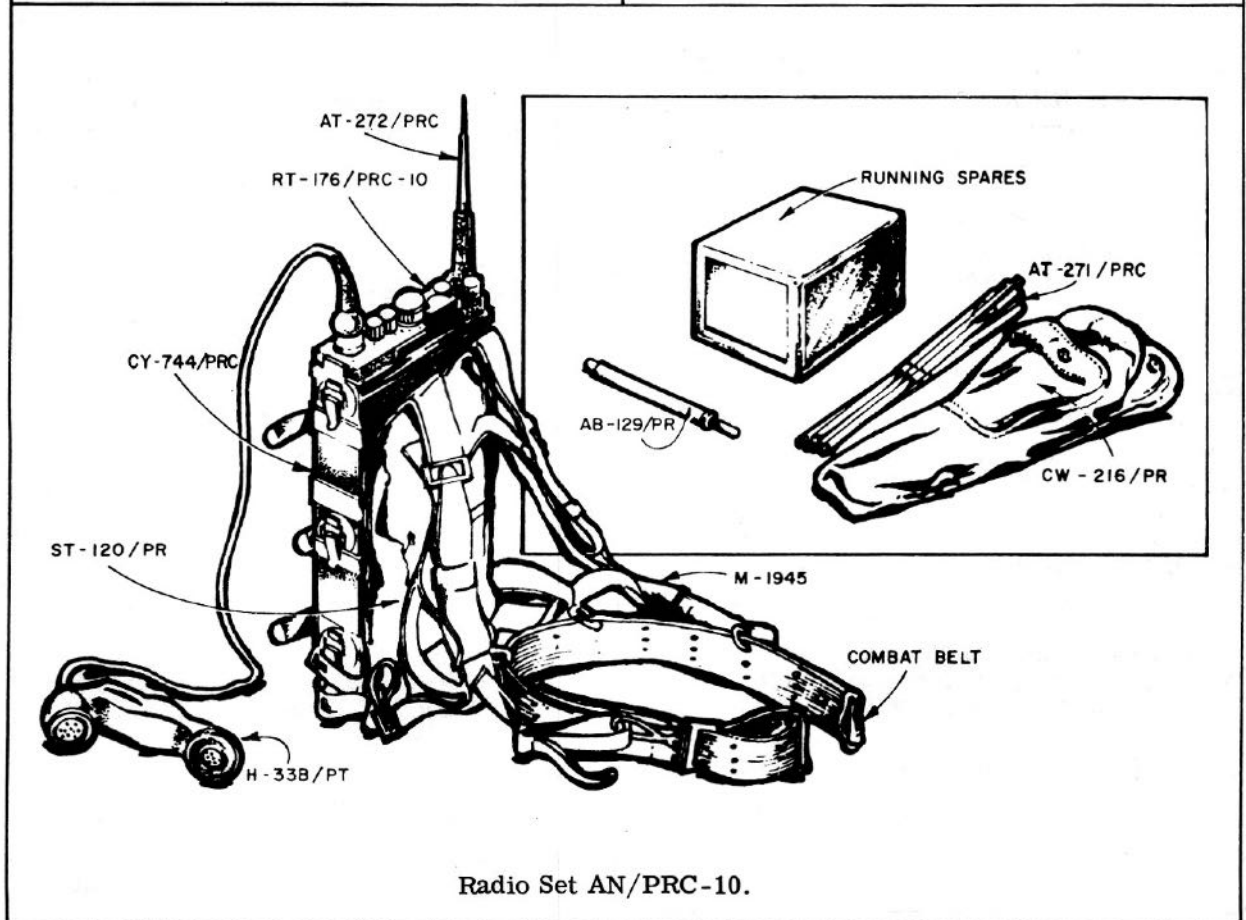


RADIO SETS AN/PRC-8, AN/PRC-9, AND AN/PRC-10

October 1961

Radio Set AN/PRC-10

GENERAL DATA		MAJOR UNITS	
F. S. N:	5820-505-1827	(1)	Radio Receiver-Transmitter RT-176/PRC-10
ID Number:	00086A	(1)	Case CY-744/PRC
Function:	Two-way voice communications.	(1)	Antenna AT-271/PRC
Manufacturer:	Radio Corporation of America, Camden, N. J.	(1)	Antenna AT-272/PRC
		(1)	Handset H-33B/PT
Contracts:	DA-36-039-SC-1391 DA-36-039-SC-9395		
Approximate price:	\$500.00		
Recommended operational checkout interval:	<u>DAILY</u>		

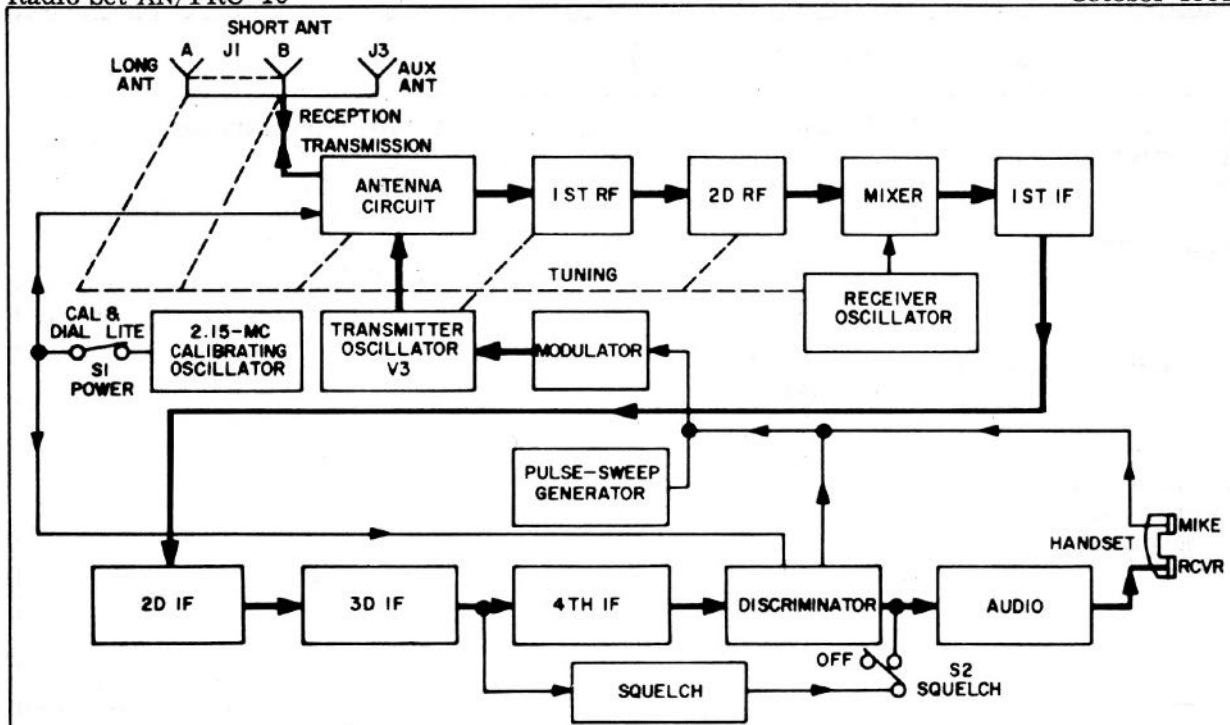


Radio Set AN/PRC-10.

RADIO SETS AN/PRC-8, AN/PRC-9, AND AN/PRC-10

Radio Set AN/PRC-10

October 1961



Radio Set AN/PRC-10 Block Diagram.

OPERATIONAL CHARACTERISTICS	SIMILAR EQUIPMENTS	
<p>Use: Radio Set AN/PRC-10 is a battery operated, portable, low-power FM receiver-transmitter which provides voice communication over relatively short distances. Provisions are incorporated in Radio Set AN/PRC-10 for its adaptation to aircraft, vehicular or semi-permanent ground operation using Amplifier-Power Supply AM-598/U (not furnished); remote operation using Control Group AN/GRA-6 (not furnished); homing operation using Antenna AT-339/PRC (not furnished); extension of the operating range for fixed installation by use of Antenna Equipment RC-292 (not furnished) or unattended relay operation.</p> <p>Used with: Amplifier Power Supply AM-598/U when installed in a vehicle, also Control Group AN/GRA-6.</p> <p>Installation: Portable, vehicular, aircraft.</p>	<p>Radio Sets AN/PRC-8, AN/PRC-8A, AN/PRC-9, and AN/PRC-9A, except for frequency range.</p>	
	TECHNICAL CHARACTERISTICS	
	<p>Frequency range: 38 to 54.9 MC.</p> <p>Power source:                      Man pack: Battery BA-279/U.                      Vehicular: Amplifier Power Supply AM-598/U.</p> <p>Distance range: About 3 miles.</p> <p>Weight: 26 pounds.</p> <p>Signal type: Voice, frequency modulated.</p>	
PHYSICAL CHARACTERISTICS		
Unit	Overall Weight (in lbs)	Cubic Feet
AN/PRC-10	100	6 (crated)

RADIO SETS AN/PRC-8, AN/PRC-9, AND AN/PRC-10

Revised  
April 1962

Radio Set AN/PRC-10

PUBLICATIONS

MI-5820-25/2, Runner Mtg Battery Case  
CY-744/PRC, Dec 61.  
SIG 7-8, Amplifier AM-427/U, Dec 57.  
SIG 7-8, Antenna AT-271/PRC,  
AT-271A/PRC, Feb 58.  
SIG 7-8, Radio Set AN/PRC-10,  
AN/PRC-10A, Aug 58.  
SIG 7-8, Radio Set AN/PRC-10, AN/PRC-10A  
Aug 59, Ch 1.  
SIG 7-8, Radio Set AN/PRC-10,  
AN/PRC-10A, Dec 59, Ch 2.  
SIG 7-8, Transformer Discriminator  
TF-132/U, Dec 57.  
SL-3-00086, Radio Set AN/PRC-10,  
AN/PRC-10A, Jan 62.

TI-5820-25/1, RPR Plug-In Units  
AN/PRC-8 Thru 10A, Dec 61.  
TM 11-612, Radio Set AN/PRC-8, A, 9, A, 10,  
A-28, Dec 54.  
TM 11-612, Radio Set AN/PRC-8, A, 9, A, 10,  
A, 28, Dec 55, Ch 1.  
TM 11-612, Radio Set AN/PRC-8, A, 9, A, 10,  
A, 28, Dec 56, Ch 2.  
TM 11-4065, Radio Set AN/PRC-8, 9, 10,  
Fld Maint, Sep 54.  
TM 11-4065, Radio Set AN/PRC-8, 9, 10  
Fld Maint, Ch 1.  
TM 11-5965-202-12P, Handsets H-33/PT  
Series, Apr 59.  
TM 11-5965-202-35P, Handsets H-33E, F/PT  
Jan 61.

RADIO SETS AN/PRC-8, AN/PRC-9, AND AN/PRC-10

Radio Sets AN/PRC-8, AN/PRC-9, and AN/PRC-10

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MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Fourth echelon testing procedures	Signal generator: 19.5 to 60 MC.	AN/URM-48		TM 11-4065, paragraphs 76. 1 through 76. 17.
	Output meter: 1 to 2.5 milliwatts.	TS-585 ( )/U	ME-2/U*	
	Signal generator: 4.3 to 20 MC.	AN/URM-25 ( )	AN/URM-26 ( )	
	Panoramic indicator	IP-173/U		
	RF wattmeter: .9 to 1.2 watts	AN/URM-43A	ME-11/U*	
	Audio oscillator: 0 to 1000 CPS.	TS382 ( )/U	LO-( )	
	VTVM: 0 to 10 VDC	TS-505 ( )/U	ME-25 ( )/U	
Organizational maintenance	No special tools or test equipment required.			TM 11-612, paragraph 33.
	* Non T/A item.			

RADIO SETS AN/PRC-8, AN/PRC-9, AND AN/PRC-10

Revised  
April 1962

Radio Sets AN/PRC-8, AN/PRC-9, and AN/PRC-10

EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
MCO 2005. 22 Sup 2: To prevent loss and damage to the pointer adjust knob.	Utility Electronics Corp order number 23468-PH-50, all receiver-transmitters RT-176/PRC-10.  Radio Corp. of America order number 1758-PH-51, all receiver transmitters RT-174/PRC-8, all RT-175/PRC-9, and all RT-176/PRC-10. Order number 3153-PH-51, all receiver-transmitters RT-174/PRC-8, RT-175/PRC-9 serial numbers 6 through 1096, and RT-176/PRC-10 serial numbers 10286 through 20355.  Admiral Radio Corp. , order number 3374-PH-52, all receiver-transmitters RT-174/PRC-8, all RT-175/PRC-9, and RT-176/PRC-10 serial numbers 21558 through 32473.	New improved stud and guard for for pointer adjust knob.
MCO 2005. 22 Sup 3: To replace local oscillator tube.	AN/PRC-8 AN/PRC-9 AN/PRC-10	Local oscillator tube V8, type 5676 replaced by tube type 1AD4 with a tube shield.
MCO 2005. 22 Sup 4: Testing instructions for amplifier AM-427/U and AM-427A/U.	AM-427/U AM-427A/U	

RADIO SETS AN/PRC-8, AN/PRC-9, AND AN/PRC-10

Revised  
April 1962

Radio Sets AN/PRC-8, AN/PRC-9, and AN/PRC-10

EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
MCO 2005.22 Sup 5: To prevent battery power loss, Ch 1 Apr 60.	Radio Sets AN/PRC-8 serial numbered below 669, AN/PRC-9 serial numbered below 1545, and AN/PRC-10 serial numbered below 26021 procured on orders numbered 3374-Phila-52 and 3432-Phila-52, Radio Sets AN/PRC-8 serial numbered below 116, and AN/PRC-10 serial numbered below 9101 procured on Order No. 1758-Phila-51.	Installation of a lead from negative terminal of power switch to solder lug on top of relay K2.
MCO 2005.22 Sup 6: To reduce the oscillator drift in the transmitter.	Radio Sets AN/PRC-8, AN/PRC-9 and AN/PRC-10 manufactured by Utilities Electronic Company (Order No. 23468-Phila-50), RCA (Order Nos. 1758-Phila-51 and 3153-Phila-51), RCA (Order No. 15178 Phila-52 except those serial numbered 17285 through 17381, 18553 through 18621, 20815 through 21000 and above 21244), Admiral (Order No. 3374-Phila-51 and all radio sets bearing serial numbers 1 through 4000 on Order No. 15176-Phila-52).	Replacement of mica capacitor C-10 with a fixed 56-uuf ceramic capacitor.

RADIO SETS AN/PRC-8, AN/PRC-9, AND AN/PRC-10

Revised  
April 1962

Radio Sets AN/PRC-8, AN/PRC-9, and AN/PRC-10

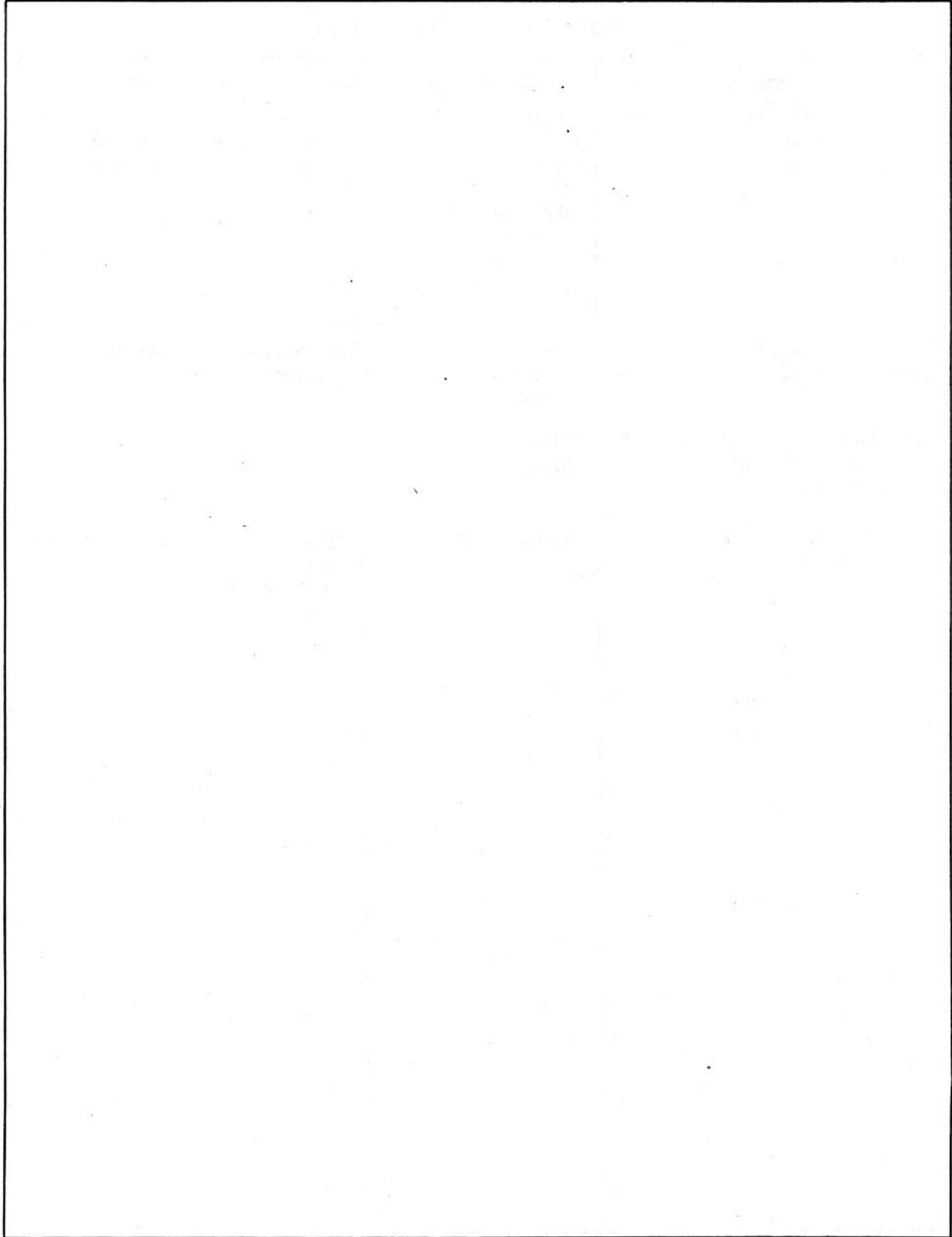
EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
MCO 2005.22 Sup 7: To prevent frequency drift.	AN/PRC-8, AN/PRC-9, AN/PRC-10 except those previously modified in accordance with Marine Corps Technical Bulletin 1-54 Dtd. 7 Jan 54.	Wiring changes in accordance with Figure 5 of this supplement.
MCO 2005.22 Sup 8: To replace jacks J1 and J2.	RT-174/PRC-8 RT-175/PRC-9 RT-176/PRC-10	Jacks J1 and J2 replaced by a new connector assembly.
MCO 2005.22 Sup 9: Instructions for the repair of the plug-in amplifier units.	AM-427/U AM-427A/U	
MI-5820-25/2 Runner Mounting	CY-744/PRC	Plate nut and screw replacement to prevent runners from becoming detached from battery case.



RADIO SETS AN/PRC-8, AN/PRC-9, AND AN/PRC-10

Radio Set AN/PRC-10

October 1961

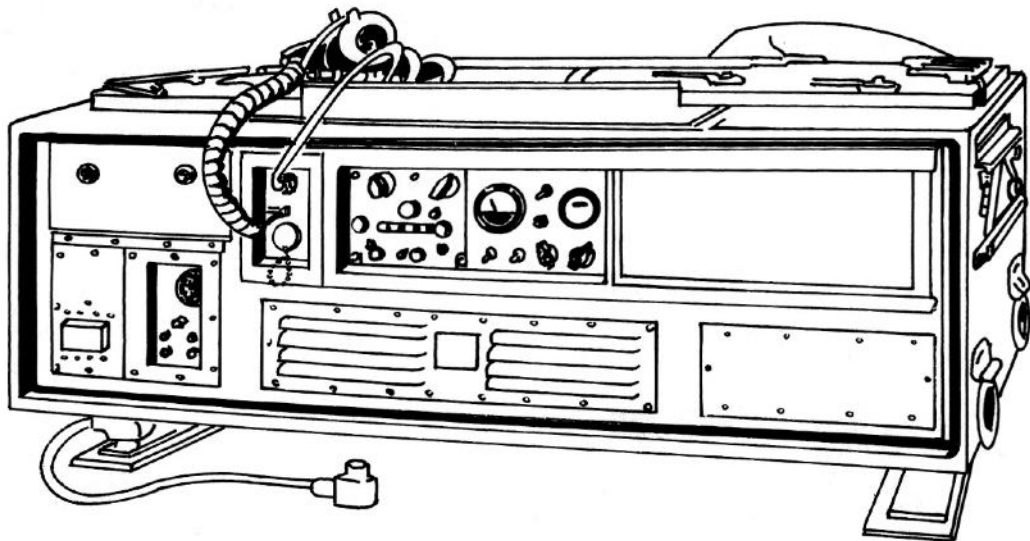


RADIO SET AN/TRC-75

October 1961

Radio Set AN/TRC-75

GENERAL DATA		MAJOR UNITS	
F. S. N:	5820-674-0580	(1)	Radio Set Control C-3141/TRC-75
ID Number:	00490A	(1)	Radio Receiver R-761/ARC-58
Function:	Two-way voice, MCW and teletype signals.	(1)	Radio Transmitter T-730/TRC-75
Manufacturer:	Collins Radio Company Cedar Rapids, Iowa	(1)	Antenna Coupler CU-749/TRC-75
Contracts:	NOM 71001	(1)	Antenna Coupler Control C-2848/TRC-75
Approximate price:	\$18,500.00	(1)	Amplifier Assembly AM-2306/TRC-75
Recommended operational checkout interval:	<u>DAILY</u>	(1)	Vane Axial Fan HO-368/TRC-75
		(1)	Vane Axial Fan HO-369/TRC-75
		(1)	Converter-Oscillator CV-786/TRC-75
		(1)	Relay Assembly Loading Coil RF-111/TRC-75

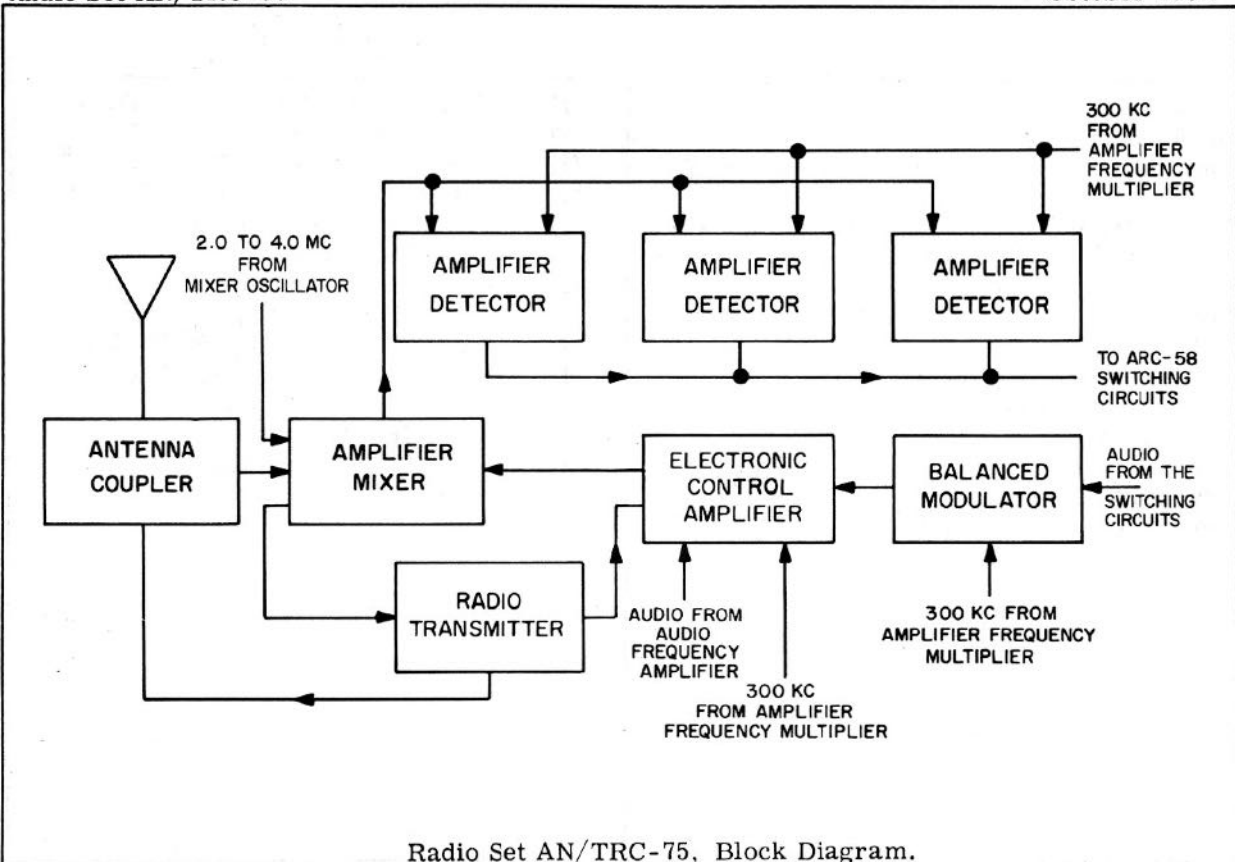


Radio Set AN/TRC-75.

# RADIO SET AN/TRC-75

Radio Set AN/TRC-75

October 1961



Radio Set AN/TRC-75, Block Diagram.

OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS
<p><b>Use:</b> Reliable long-distance two-way communication in the high-frequency band, for ground-to-air, air-to-ground, and point-to-point service.</p> <p><b>Use with:</b> AN/MRC-83 and AN/MRC-87</p> <p><b>Installation:</b> Vehicular mounted and operated while the vehicle is in motion or initiated and operated at a fixed site.</p>	<p><b>Frequency range:</b> 2.0 to 29.999 megacycles</p> <p><b>Power source:</b></p> <p style="padding-left: 20px;"><b>Mobile installation:</b> Motor-Generator PU-459/U or Power Supply PP-2352/UR</p> <p style="padding-left: 20px;"><b>Fixed installation:</b> Any power source capable of supplying the required primary power.</p>
<b>SIMILAR EQUIPMENTS</b>	<p><b>Primary power required:</b> 115 volts <math>\pm</math> 6 volts (line to neutral), three phase, 400 cycles per second <math>\pm</math> 20 CPS, 2.5 kw, 90% p. f.</p>
<p>When the AN/TRC-75 is vehicular mounted as a complete installation, including a primary power source and operating accessories, it is designated the AN/MRC-83.</p> <p>AN/TRC-75, when used in conjunction with the AN/ARC-55, is a unit of the AN/MRC-87.</p>	

## RADIO SET AN/TRC-75

Revised  
April 1962

Radio Set AN/TRC-75

TECHNICAL CHARACTERISTICS (Cont)	PHYSICAL CHARACTERISTICS		
<p>High power output: SSB                      900 watts PEP 2.0 to 15.0 megacycles;                                  750 watts PEP 15.0 to 29.999 megacycles.</p> <p>AM CW and FSK (TTY)                      180 watts</p> <p>                                 700 watts 2.0 to 15.0 megacycles; 700 watts 15.0 to 29.999 megacycles.</p> <p>Low power output: SSB                      100-200 watts PEP AM                        40-80 watts CW and FSK (TTY)                      100 watts</p>	Unit	Overall Weight (in lbs)	Cubic Feet
	AN/TRC-75	548 (in 12 packages)	32 (crated)
PUBLICATIONS			
<p>MI-00490A-35/1, CW Keying Circuitry for AN/TRC-75, Feb 62.</p> <p>NAVMC ELECT 2040, Radio Set AN/TRC-75, Dec 59.</p> <p>NAVMC ELECT 2040, Radio Set AN/TRC-75, Feb 61, Ch 1.</p> <p>NAVMC ELECT 2041, Radio Set AN/TRC-75, Dec 59.</p> <p>NAVMC ELECT 2041, Radio Set AN/TRC-75, Feb 61, Ch 1.</p> <p>NAVMC ELECT 2048, Power Supply PP-2352/UR, Feb 60.</p> <p>RPL 02365A, Gen Set Diesel Eng PU-454/G, Nov 59.</p> <p>RPL 02365A, Gen Set Diesel Eng PU-454/G, Sep 61, Ch 1.</p> <p>SC-EL-00490A, Suppt Concept SSB COM SYS AN/TRC-75, May 60.</p> <p>SL-3-00490A, Radio Set AN/TRC-75, Apr 61.</p>	<p>SL-3-02409A, Test Set Radio AN/GRM-21, Mar 61.</p> <p>SL-3-02598A, Test Set Radio TS-1325/TRC-75, Apr 61.</p> <p>SL-3-02599A, Test Set Radio AN/URM-124, Feb 62.</p> <p>SL-3-02600A, Test Set Coupl Contr TS-1324/TRC-75, Apr 61.</p> <p>SL-4-00490A VOL I, Radio Set AN/TRC-75, Feb 62.</p> <p>SL-4-00490A VOL II, Radio Set AN/TRC-75, Feb 62.</p> <p>SL-4-02409A, Test Set Radio AN/GRM-21, Aug 60.</p> <p>SL-4-02598A, Test Set Radio TS-1325/TRC-75, Oct 60.</p> <p>SL-4-02599A, Test Set Radio AN/URM-124, Oct 61.</p> <p>SL-4-02600A, Test Set Radio TS-1324/TRC-75, Oct 60.</p>		

RADIO SET AN/TRC-75

Radio Set AN/TRC-75

October 1961

MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Tuning and adjustment	VTVM: 0.134-90 VDC 0.4-70 VAC	TS-505/U	ME-25( )/U	NAVMC ELECT 2041, Section 6, paragraphs 6-1-b(2) through 6-1-b(10)(e).
	Radio test set group	AN/GRM-21		
	Termination resistor:	General Radio type 874-WM		
	Audio oscillator: 800-2425 CPS	TS-382( )/U	*LAJ-4	
	Multimeter: 0-90 VDC, 0.016- 115 VAC, 0-10 ohms	AN/PSM-4A	TS-352( )/U	
	Signal generator: 298.5 KC to 25 MC	AN/URM-25( )	*LP-5	
	Oscilloscope	AN/USM-79	*Hewlett- Packard model 150A, 151B AN/USM-24( )	
	Frequency meter: 549.4 KC to 3.6995 MC	AN/USM-26	AN/USM-122	
	VTVM: 2 MV to 10 volts AC	ME-30/U	*Hewlett- Packard model 400D ME-6C/U	
	Decade capacitor	CDA-5	TS-1343/U	
Millimeter: 0-25 ma. D. C.	Simpson model 127**	AN/PSM-4A		

\*\* Two required.  
\* Not a T/A item.

RADIO SET AN/TRC-75

October 1961

Radio Set AN/TRC-75

MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Tuning and adjustment	VTVM: minimum volts	Kintel Model 202B	TS-505/U ME-26/U*	
	Multimeter: minimum volts	Simpson Model 269	ME-25( )/U TS-505/U	
	Millimeter: 0-100 ma zero center scale	Line Unit BE-77-A		
	Receiver: 2-25 MC	AN/URR 23	Collins 51J4*	
* Not a T/A item.				

RADIO SET AN/TRC-75

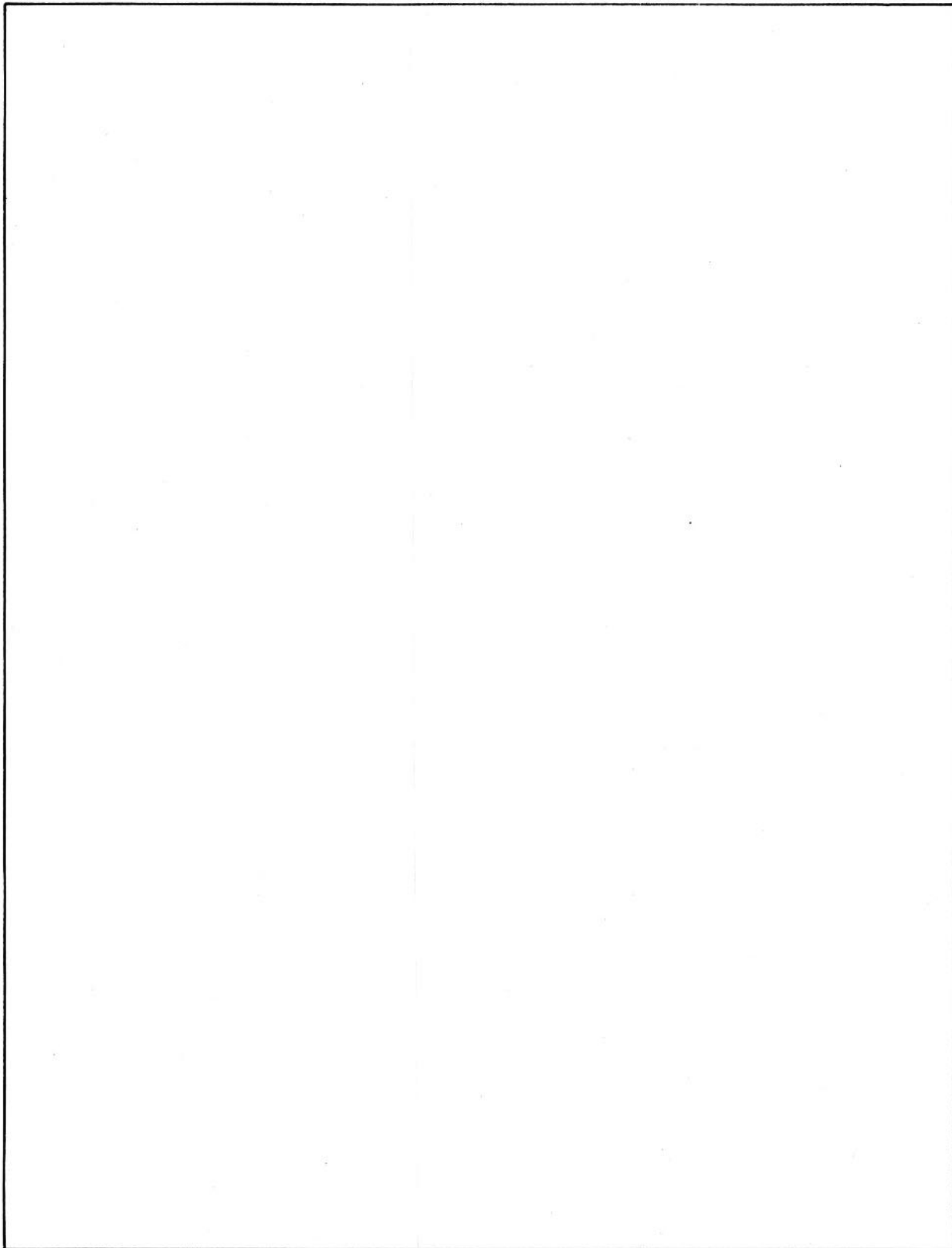
Revised  
April 1962

Radio Set AN/TRC-75

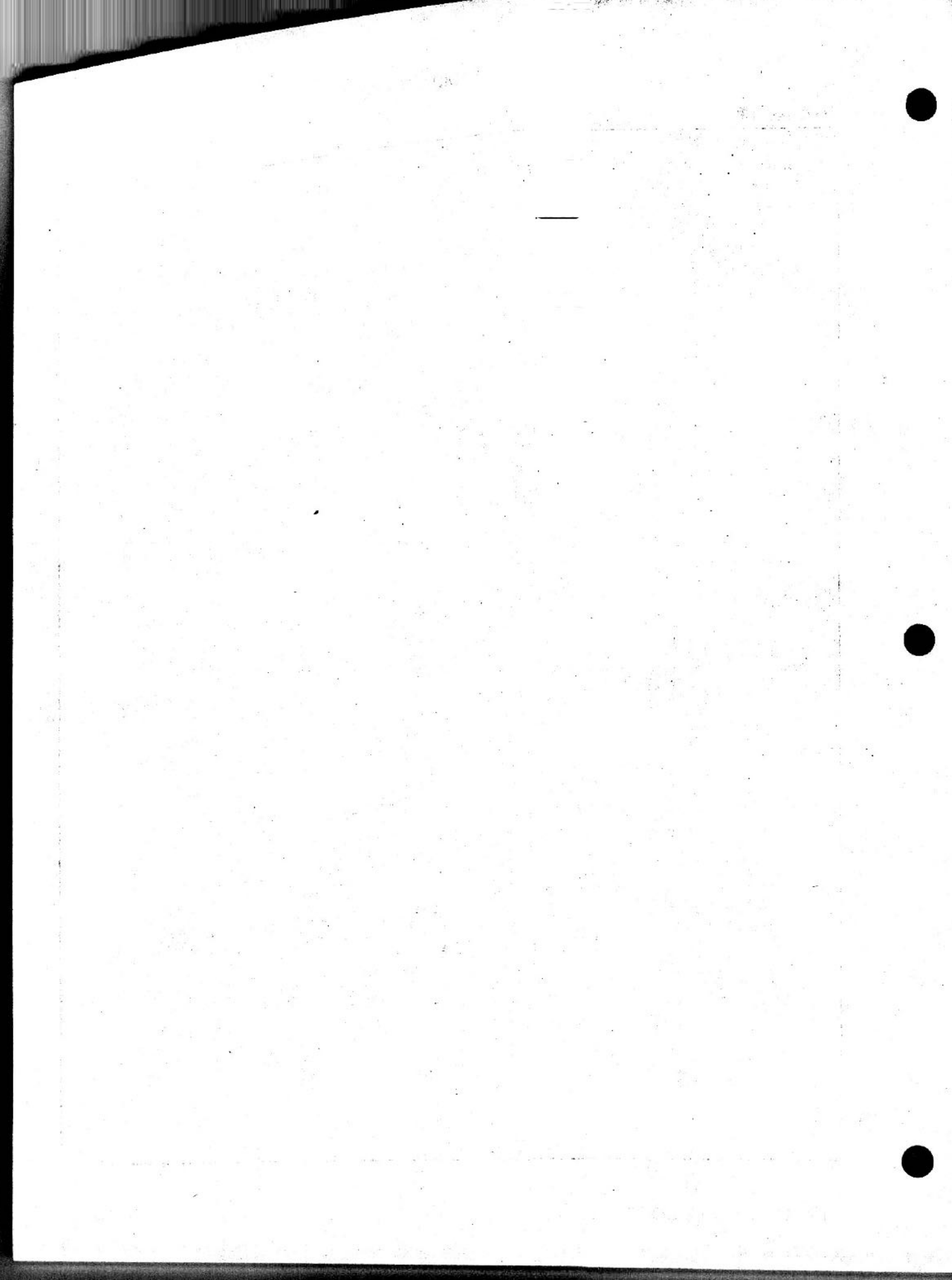
EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
MI-00490A-35/1 Provisions for faster keying in CW operation.	Radio Set Case CY-2600/TRC-75.	Stranded number 22 plastic jacket wire connected between pin 7 of relay K1 and ground lug of relay K1.

October 1961

Radio Set AN/TRC-75





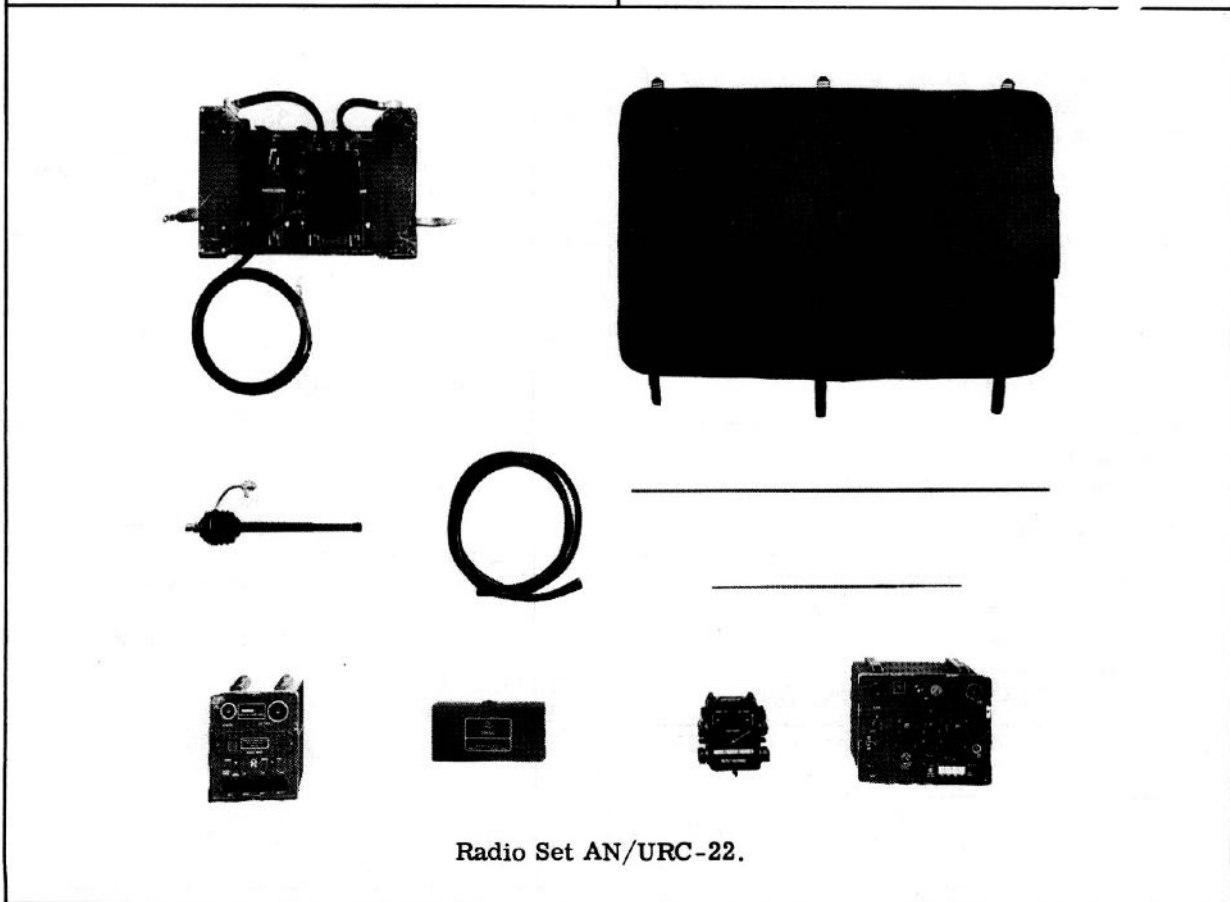


# RADIO SET AN/URC-22

October 1961

Radio Set AN/URC-22

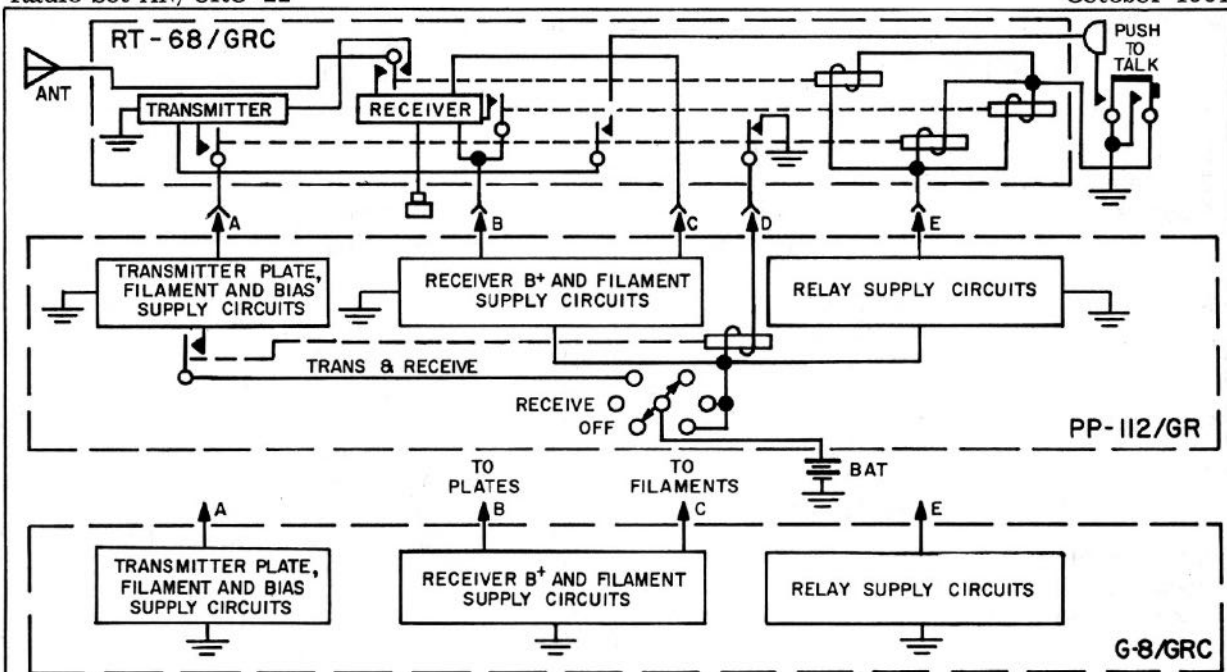
GENERAL DATA	MAJOR UNITS
<p>F. S. N: 5820-543-0586                      ID Number: 00759A                      Function: Two-way voice communications.</p> <p>Manufacturer: MCSC Albany, Ga.                      MCSC Barstow, Calif.</p> <p>Contracts: Albany, Project                      54-781-700 Job 6                      Barstow, Project                      54-781-701 Job 6</p> <p>Approximate price: \$1,496.00                      Recommended operational checkout interval: <u>WEEKLY</u></p>	<ul style="list-style-type: none"> <li>(1) Adapter UG-273/U</li> <li>(1) Adapter UG-306/U</li> <li>(1) Antenna Element AB-24/GR</li> <li>(1) Antenna Element MS-117</li> <li>(1) Canvas Bag CW-206/GR</li> <li>(1) Mast Base AB-15/GR</li> <li>(1) Connector Box</li> <li>(1) Cable WM-46/U</li> <li>(1) Cable Assembly CG-530/U</li> <li>(1) Cable Assembly CX-1211/U</li> <li>(1) Case CY-684/GR</li> <li>(1) Control Box C-375/VRC</li> <li>(1) Radio Set Control AN/GRA-6</li> <li>(1) Modification Kit MX-898/GR</li> <li>(1) Mounting MT-299/GR</li> <li>(1) Power Supply PP-112/GR</li> <li>(1) Receiver-Transmitter RT-68/GRC</li> </ul>



# RADIO SET AN/URC-22

Radio Set AN/URC-22

October 1961



Radio Set AN/URC-22 Basic Block Diagram.

OPERATIONAL CHARACTERISTICS		TECHNICAL CHARACTERISTICS
<p>Use: Radio Set AN/URC-22 is a two-way FM voice radiotelephone communication set, designed primarily for short-range operation with infantry units.</p> <p>Radio Set AN/URC-22 components provide facilities for automatic two-way transmission; full duplex radio operation or telephone operation between local and remote control units; interphone communications; monitoring; and push-to-talk operation from local or remote control stations.</p> <p>Used with: Receiver-Transmitter RT-68/GRC is used with Radio Sets AN/GRC-7, AN/VRC-22 and AN/MRC-38.</p> <p>Installation: Mobile or fixed.</p>		<p>Power supply: 24 VDC</p> <p>Frequency range: 38 to 54.9 MC</p> <p>Transmission and reception: Voice and 1600-cycle FM signal</p> <p>Tuning: Choice of preset channels or continuous tuning</p> <p>Channels: 170; 100 KC intervals</p> <p>Communication range:                      Vehicular: 10 miles                      Stationary: 15 miles</p> <p>Receiver: Double-conversion superheterodyne</p> <p>Audio power output:                      Handset: 50 milliwatts                      Fixed level: 20 milliwatts                      Sensitivity: 25 microvolts</p> <p>Transmitter:                      Low power: 2 watts                      High power: 16 watts</p> <p>Generator:                      Power output: 85 watts                      Speed: 50 to 70 RPM</p>
<b>SIMILAR EQUIPMENTS</b>		
Radio Set AN/VRC-10		
<b>PHYSICAL CHARACTERISTICS</b>		
Unit	Overall Weight (in lbs)	Cubic Feet
AN/URC-22	316 (in 2 packages)	14.55 (crated)

Revised  
April 1962

Radio Set AN/URC-22

## PUBLICATIONS

NAVMC ELECT 2039, Radio Set AN/URC-20, 21, 22, Aug 59.	TM 11-286, Radio Sets AN/VRC-8-9-10, Jun 57, Ch 3.
SL-3-00044A, Control Group AN/GRA-6, Sep 61.	TM 11-289, Receiver-Trans RT-66-67-68/GRC, Dec 53.
SL-3-00759A, Radio Set AN/URC-22, May 61.	TM 11-289, Receiver Trans RT-66, 67, 68/GRC, Apr 55, Ch 1.
SL-4-00044A, Control Group AN/GRA-6, Aug 60.	TM 11-289, Receiver Trans RT-66, 67, 68/GRC, Ch 2.
SL-4-00044A, Control Group AN/GRA-6, Jun 61, Ch 1.	TM 11-289, Receiver Trans RT-66, 67, 68, GRC, Mar 57, Ch 4.
SL-4-00044A, Control Group AN/GRA-6, Jan 62, Ch 2.	TM 11-5036, PWR Supplies PP-109, A PP-112, A/GR, Dec 54.
SL-4-00757A, Radio Set AN/URC-20, Jun 61.	TM 11-5036, PWR Supplies PP-109, A PP-112, A/GR, Ch 1.
SL-4-00758A, Radio Set AN/URC-21, Jun 61.	TM 11-5036, PWR Supplies PP-109, A PP-112, A/GR, Ch 2.
SL-4-00759A, Radio Set AN/URC-22, Jun 61.	TM 11-5036, PWR Supplies PP-109, A PP-112, A/GR, Ch 3.
SL-4-02909A, Receiver Transmitter RT-68/GRC, Dec 60.	TM 11-5038, Control Group AN/GRA-6, Apr 51.
TM 11-284, Radio Sets AN/GRC-3-4-5-6-7-8, May 53.	TM 11-5038, Control Group AN/GRA-6, Dec 54, Ch 1.
TM 11-284, Radio Sets AN/GRC-3-4-5-6-7-8, Feb 54, Ch 1.	TM 11-5038, Control Group AN/GRA-6, Ch 2.
TM 11-284, Radio Sets AN/GRC-3-4-5-6-7-8, Mar 58, Ch 6.	
TM 11-286, Radio Sets AN/VRC-8-9-10, Mar 51.	

RADIO SET AN/URC-22

Radio Set AN/URC-22

October 1961

MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
	For test equipment requirements refer to the sections on AN/GRA-6 and AN/GRC-7.			

RADIO SET AN/URC-22

October 1961

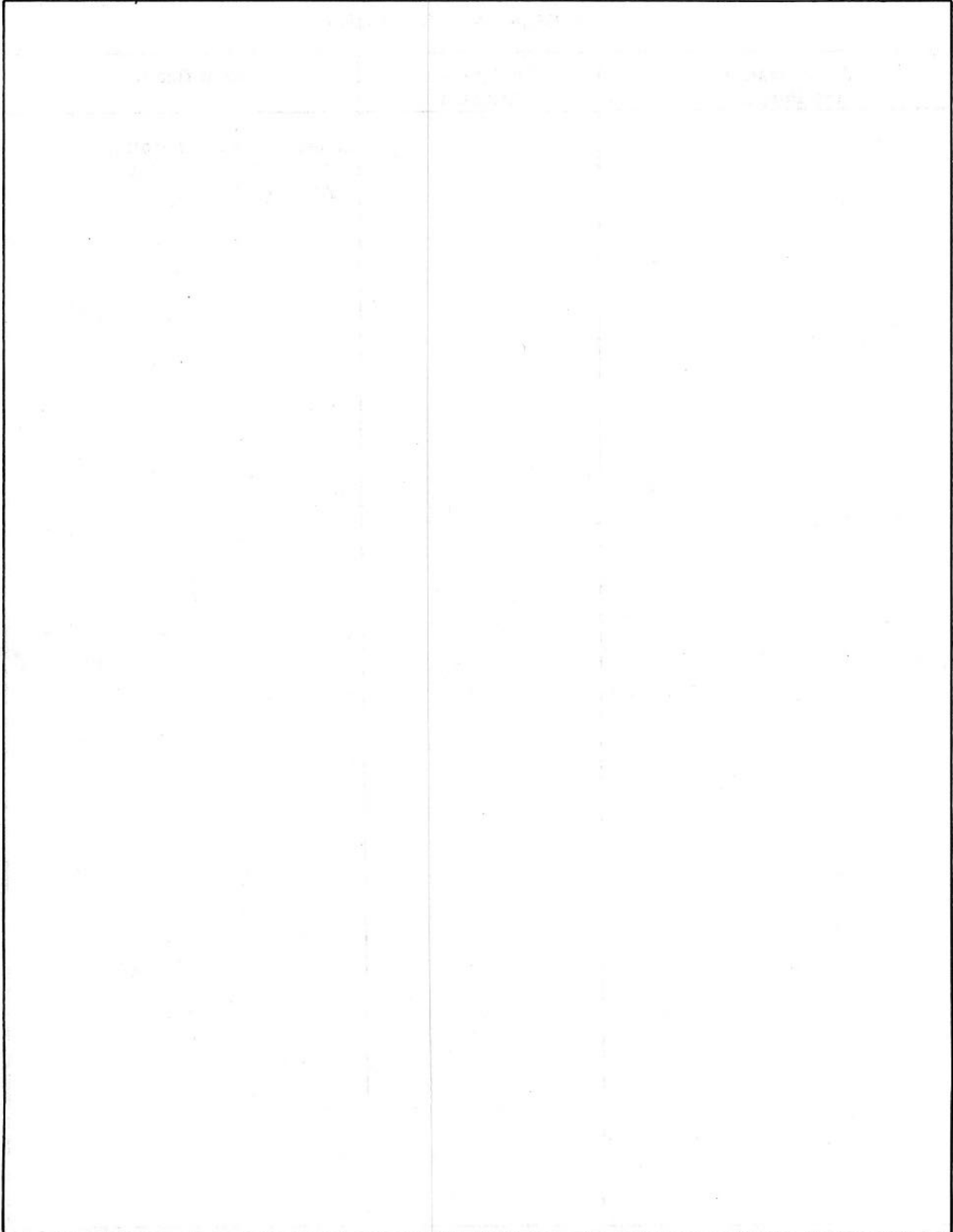
Radio Set AN/URC-22

EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
		Refer to the modifications for the AN/GRA-6 and the AN/GRC-7.

RADIO SET AN/URC-22

Radio Set AN/URC-22

October 1961

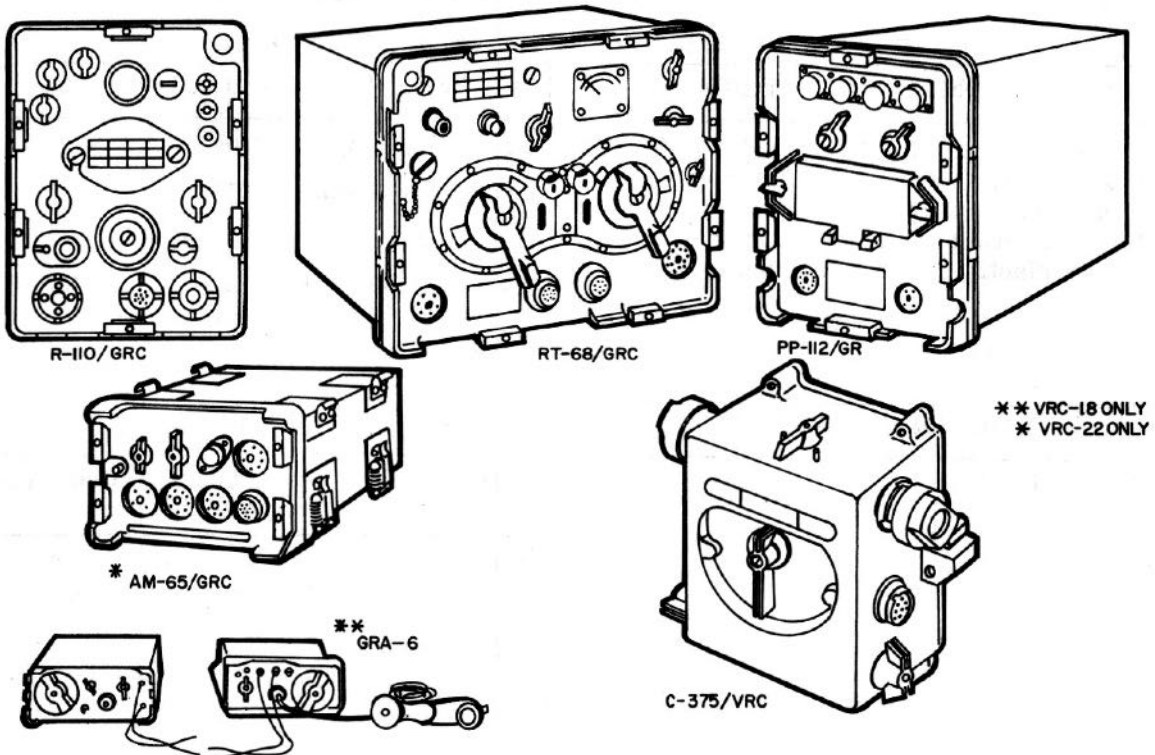


RADIO SETS AN/VRC-18 AND AN/VRC-22

October 1961

Radio Sets AN/VRC-18 and AN/VRC-22

GENERAL DATA	MAJOR UNITS
<p>F. S. N: AN/VRC-18, 5820-234-6399 AN/VRC-22, 5820-519-4101</p> <p>ID Number: AN/VRC-18, 12V, 01261A AN/VRC-18, 24V, 02129A AN/VRC-22, 00772A</p> <p>Function: Two-way voice communication</p> <p>Manufacturer: MCSC Albany, Ga. MCSC Barstow, Calif.</p> <p>Contracts: Albany 54-705-Job 10 Barstow 54-706-Job 2</p> <p>Approximate price: \$1,500.00</p> <p>Recommended operational checkout interval: <u>DAILY</u></p>	<p>AN/VRC-18:</p> <ul style="list-style-type: none"> <li>(1) Receiver-Transmitter RT-68/GRC</li> <li>(1) Power Supply PP-109/GR or PP-112/GR</li> <li>(1) Radio Receiver R-110/GRC</li> <li>(1) Power Supply PP-281/GRC or PP-282/GRC</li> <li>(1) Control Group AN/GRA-6</li> </ul> <p>AN/VRC-22:</p> <ul style="list-style-type: none"> <li>(1) Receiver-Transmitter RT-68/GRC</li> <li>(1) Radio Receiver R-110/GRC</li> <li>(1) AF Amplifier AM-65/GRC</li> <li>(1) Power Supply PP-109/GR or PP-112/GR</li> <li>(2) Power Supply PP-281/GRC or PP-282/GRC</li> </ul>



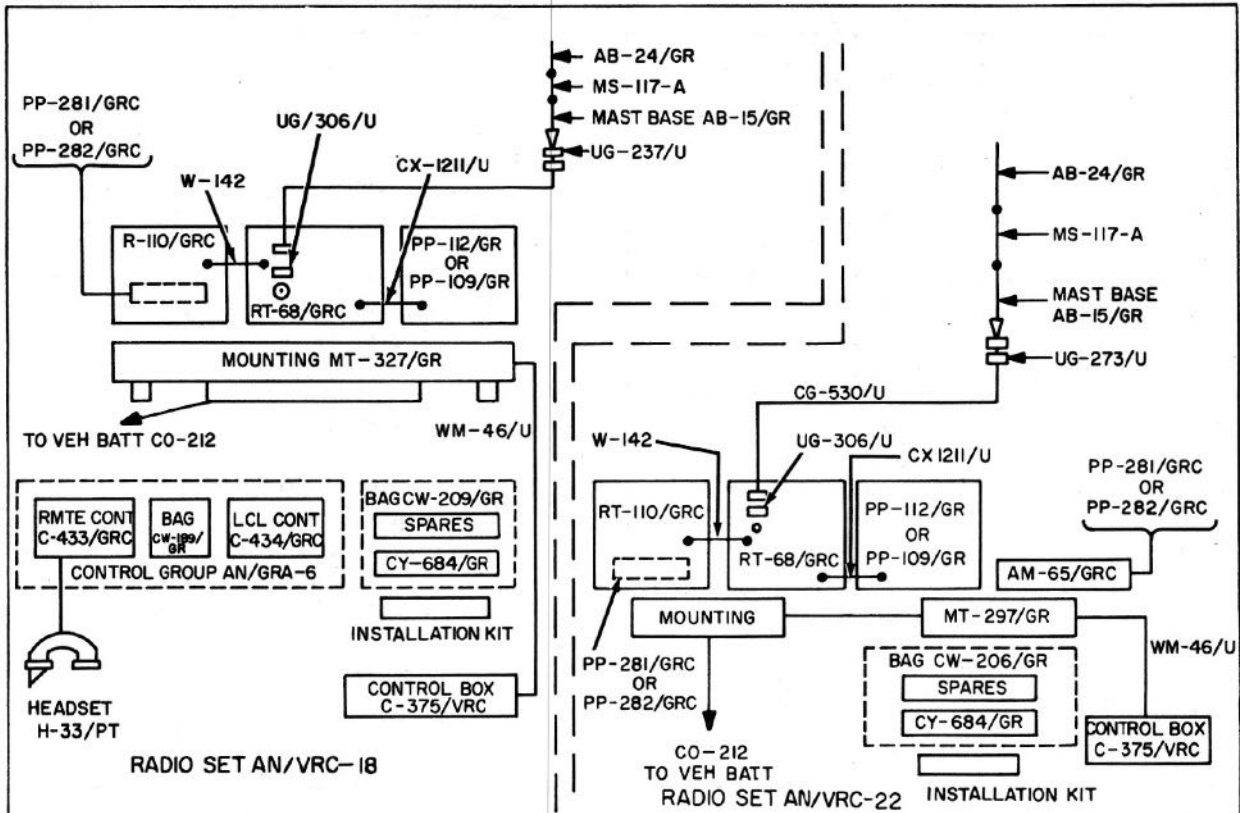
Radio Sets AN/VRC-18 and AN/VRC-22.



# RADIO SETS AN/VRC-18 AND AN/VRC-22

Radio Sets AN/VRC-18 and AN/VRC-22

October 1961



Radio Sets AN/VRC-18 and AN/VRC-22. Block Diagram.

OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS		
<p>Use: Radio Sets AN/VRC-18 and AN/VRC-22 are short range, vehicular, FM (voice) radiotelephone equipments for communications within and between infantry units and liaison between infantry and artillery units.</p> <p>Used with:</p> <p>Installation: Vehicular.</p>	<p>Frequency range: 38 to 54.9 MC.</p> <p>Type modulation: FM.</p> <p>Type signal: Voice.</p> <p>Power output: High, 16 watts. Low, 2 watts.</p> <p>Power requirements: 12 or 24 volt storage battery.</p>		
SIMILAR EQUIPMENTS	PHYSICAL CHARACTERISTICS		
AN/GRC-7.	Unit	Overall Weight (in lbs)	Cubic Feet
	AN/VRC-18	383 (In 5 packages)	22 (crated)
	AN/VRC-22	383 (In 5 packages)	22 (crated)

RADIO SETS AN/VRC-18 AND AN/VRC-22

Revised  
April 1962

Radio Sets AN/VRC-18 and AN/VRC-22

PUBLICATIONS

D/L Vol II ADV, Radio Set AN/VRC-18 24V, Aug 55.  
 NAVMC ELECT 2039, Radio Sets AN/URC-20, 21, 22, Aug 59.  
 SIG 7-8, Mounting MT-327/GR, Oct 56.  
 SL-3-00044A, Control Group AN/GRA-6, Sep 61.  
 SL-4-00044A, Control Group AN/GRA-6, Aug 60.  
 SL-4-00044A, Control Group AN/GRA-6, Jun 61, Ch 1.  
 SL-4-00044A, Control Group AN/GRA-6, Jan 62, Ch 2.  
 SL-4-00757A, Radio Set AN/URC-20, Jun 61.  
 SL-4-00758A, Radio Set AN/URC-21, Jun 61.  
 SL-4-00759A, Radio Set AN/URC-33, Jun 61.  
 SL-4-02909A, Receiver Transmitter RT-68/GRC, Dec 60.  
 TM 11-284, Radio Sets AN/GRC-3-4-5-6-7-8, May 53.  
 TM 11-284, Radio Sets AN/GRC-3-4-5-6-7-8, Feb 54, Ch 1.  
 TM 11-284, Radio Sets AN/GRC-3-4-5-6-7-8, Mar 58, Ch 6.

TM 11-286, Radio Sets AN/VRC-8, 9, 10, Mar 51.  
 TM 11-286, Radio Sets AN/VRC-8-9-10, Jun 57, Ch 3.  
 TM 11-289, Receiver-Transmitter RT-66, 67, 68 GRC, Dec 53.  
 TM 11-289, Receiver Trans RT-66, 67, 68/GRC, Apr 55, Ch 1.  
 TM 11-289, Receiver Trans RT-66, 67, 68/GRC, Ch 2.  
 TM 11-289, Receiver Trans RT-66, 67, 68/GRC, Mar 57, Ch 4.  
 TM 11-611, Radio Sets AN/VRC-16-17-18, May 51.  
 TM 11-5036, Pwr Supplies PP-109, A PP-112, A/GR, Dec 54.  
 TM 11-5036, Pwr Supplies PP-109, A PP-112, A/GR, Ch 1.  
 TM 11-5036, Pwr Supplies PP-109, A PP-112, A/GR, Jan 58, Ch 2.  
 TM 11-5036, Pwr Supplies PP-109, A PP-112, A/GR, Ch 3.  
 TM 11-5038, Control Group AN/GRA-6, Apr 51.  
 TM 11-5038, Control Group AN/GRA-6, Dec 54.  
 TM 11-5038, Control Group AN/GRA-6, Ch 2.

RADIO SETS AN/VRC-18 AND AN/VRC-22

Radio Sets AN/VRC-18 and AN/VRC-22

October 1961

MAINTENANCE DATA

Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
	For list of the required test equipment refer to the AN/GRC-7.			

RADIO SETS AN/VRC-18 AND AN/VRC-22

October 1961

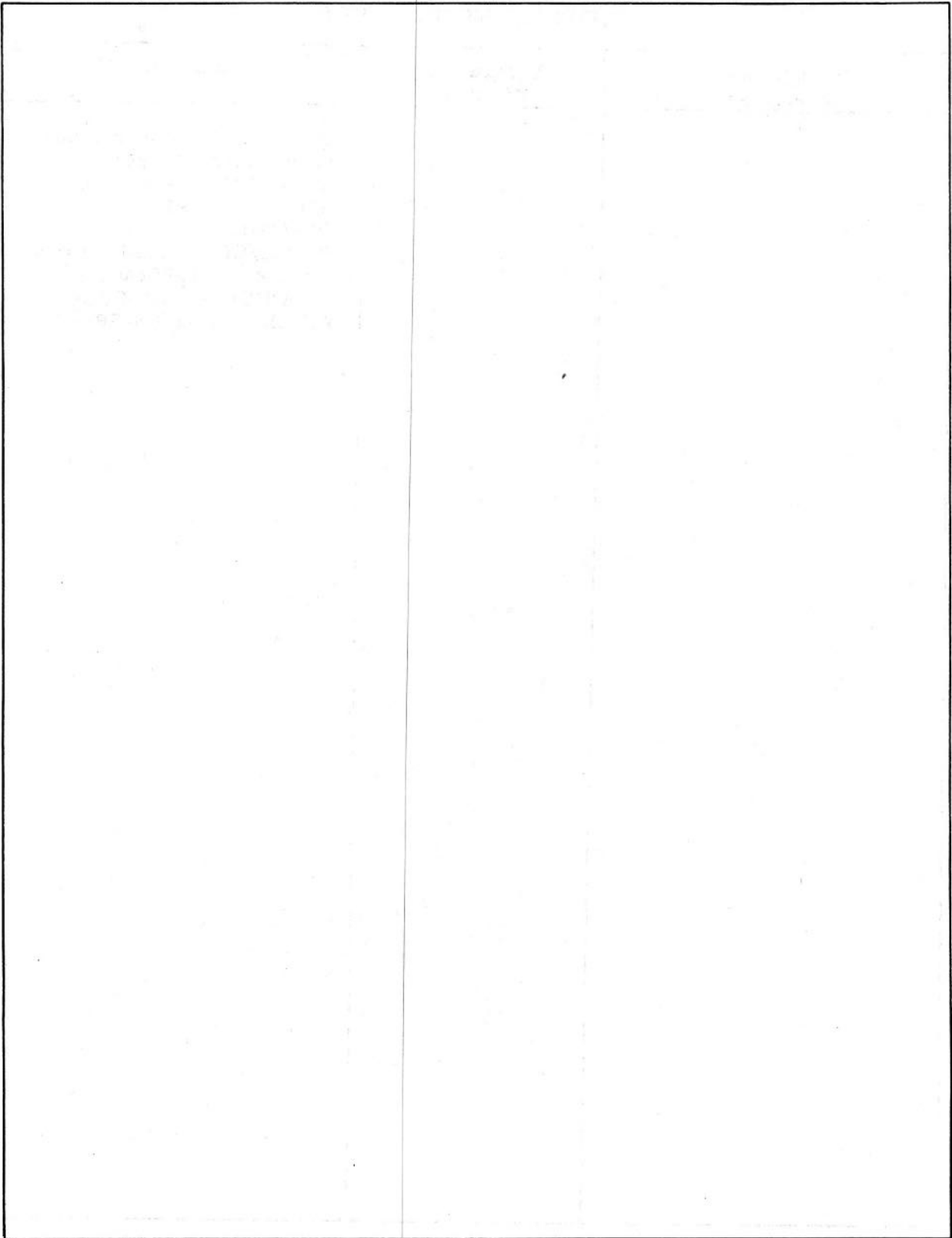
Radio Sets AN/VRC-18 and AN/VRC-22

EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
		For modifications to the following units RT-68/GRC, R-110/GRC, (C-375/VRC, AM-65/GRC, PP-109/GR, PP-112/GR, PP-281/GRC, PP-282/GRC, and AN/GRA-6) refer to the modifications for the AN/GRC-3, AN/GRC-5, AN/GRC-7, and AN/GRA-6.

RADIO SETS AN/VRC-18 AND AN/VRC-22

Radio Sets AN/VRC-18 and AN/VRC-22

October 1961

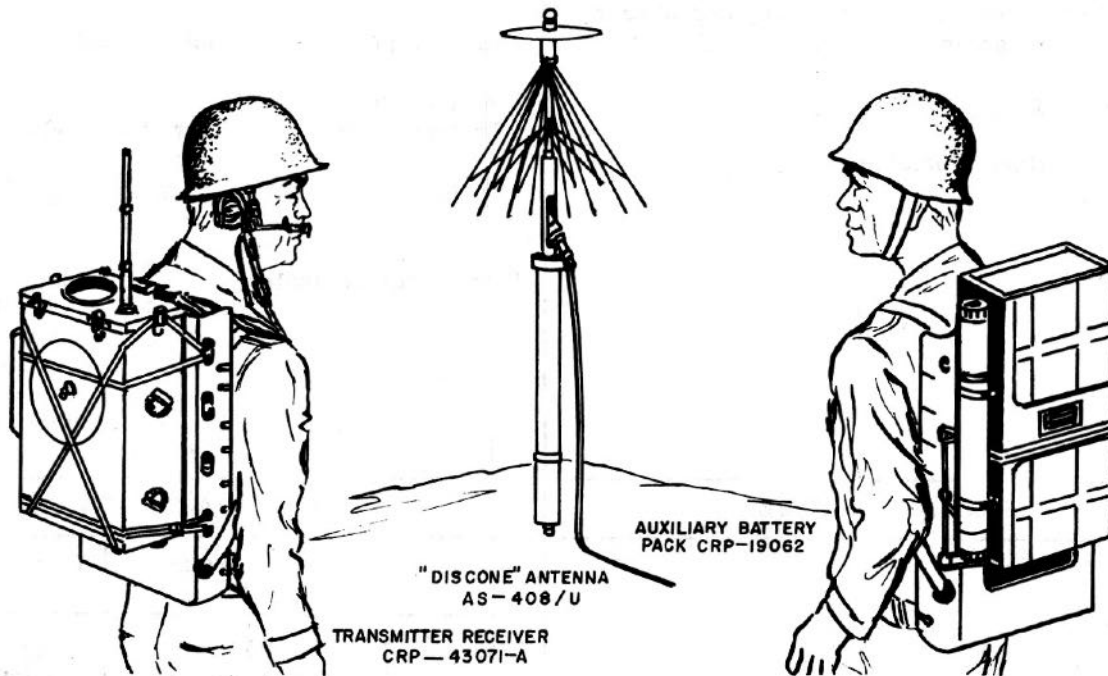


# RADIO SET MAY-1

October 1961

Radio Set May-1

GENERAL DATA	MAJOR UNITS
<p>F. S. N: 5820-352-0065                      ID Number: 00215B                      Function: Two-way voice communication.                      Manufacturer: Raytheon Company                      Lexington, Mass.                      Contracts: USMC MIPR 94164-1959</p> <p>Approximate price: \$3,300.00                      Recommended operational checkout interval: <u>DAILY</u></p>	<p>(1) Radio Transmitter-Receiver                      CRP-43071                      (2) Antennas AS-408/U                      (2) Whiptype Antennas                      (1) Auxiliary Battery Pack                      CRP-19062                      (1) Carrying Case CRP-10551</p>

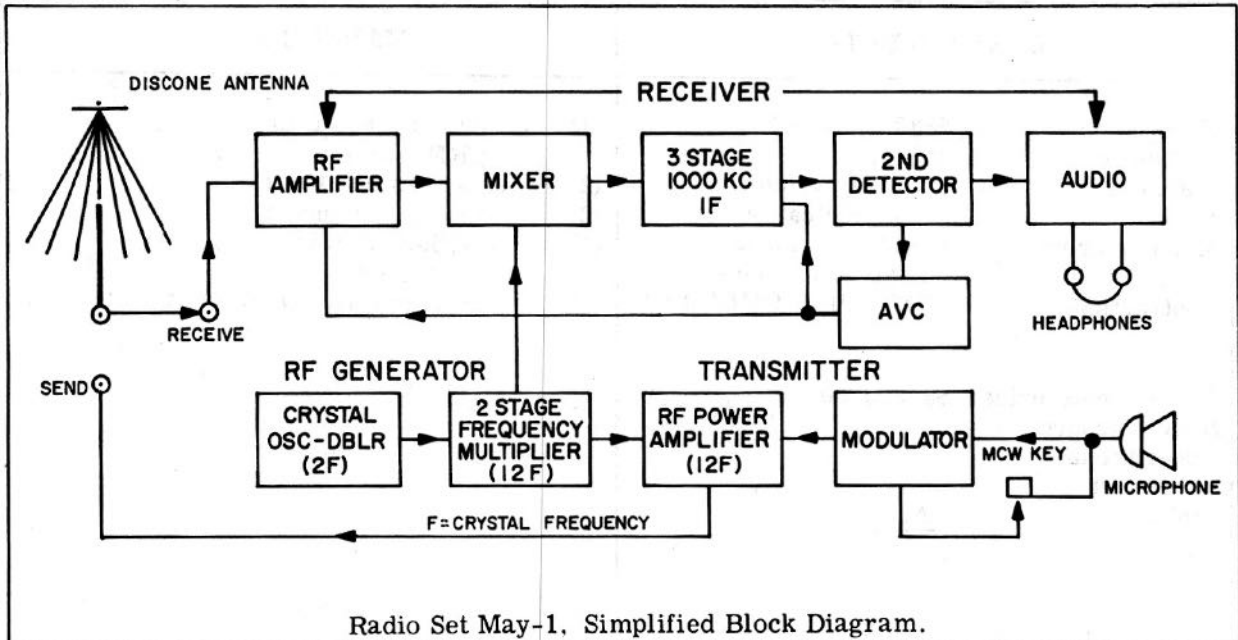


Radio Set May-1.

# RADIO SET MAY-1

Radio Set May-1

October 1961



Radio Set May-1, Simplified Block Diagram.

OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS	
<p><b>Use:</b> Radio Set May-1 is a portable two-way battery-operated field set, designed for packboard carry. This set provides voice or MCW communication on any one of four preset channels.</p> <p><b>Used with:</b></p> <p><b>Installation:</b> Portable</p>	<p><b>Frequency range:</b> 225 to 390 MC.</p> <p><b>Type modulation:</b> AM.</p> <p><b>Type of signal:</b> MCW, voice.</p> <p><b>Power output:</b></p> <p style="padding-left: 20px;"><b>Transmitter:</b> 1 watt into 50 ohm load.</p> <p style="padding-left: 20px;"><b>Receiver:</b> 25 milliwatts into 300 ohm load.</p> <p><b>Power requirements:</b> Self-contained, 6-VDC lead-acid storage battery capable of 4 hours continuous operation at a duty cycle of 3 to 1.</p>	
SIMILAR EQUIPMENTS	PHYSICAL CHARACTERISTICS	
	Unit	Overall Weight (in lbs)
	May-1	252 (in 2 packages)
		Cubic Feet (crated)
		12.45

RADIO SET MAY-1

Revised  
April 1962

Radio Set May-1

PUBLICATIONS

NAVSHIPS 91792, Radio Set May-1, Nov 52.

SL-3-00215B, Radio Set May-1, Apr 61.  
SL-4-00215B, Radio Set May-1, Jan 61,  
Ch 1 Mar 62.



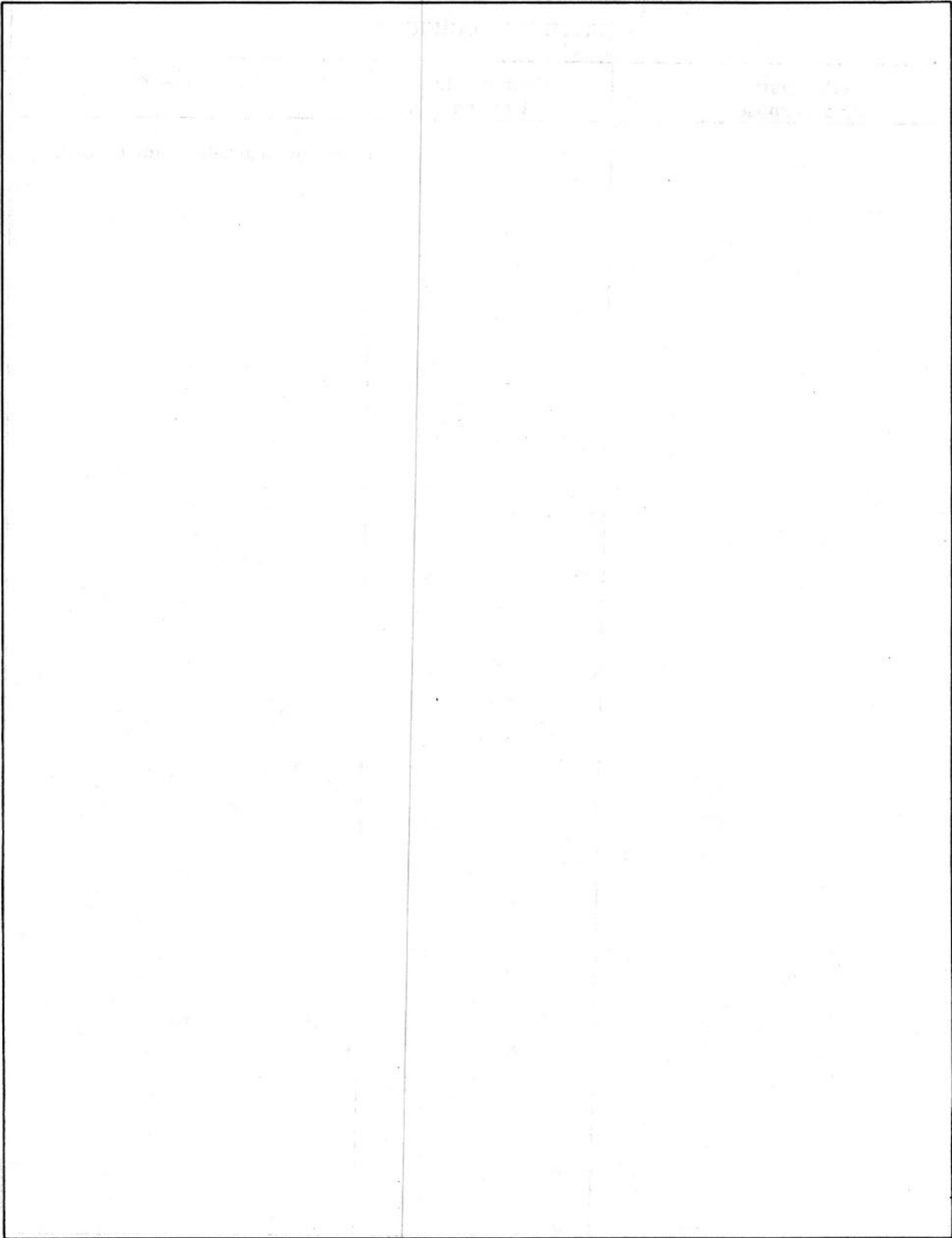
RADIO SET MAY-1

Radio Set May-1

October 1961

MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Operator's maintenance	No special tools or equipment required			NAVSHIPS 91792, Sections 5-1 through 5-5.
Alignment procedure	Multimeter: 0-50 VDC	AN/PSM-4A	TS-352( )/U	NAVSHIPS 91792, Sections 7-3d through 7-3f.
	Signal generator: 225 to 390 MC	AN/URM-26()	TS-497( )/URR	
	RF dummy load	AN/URM-43()		

EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
		No modifications authorized.

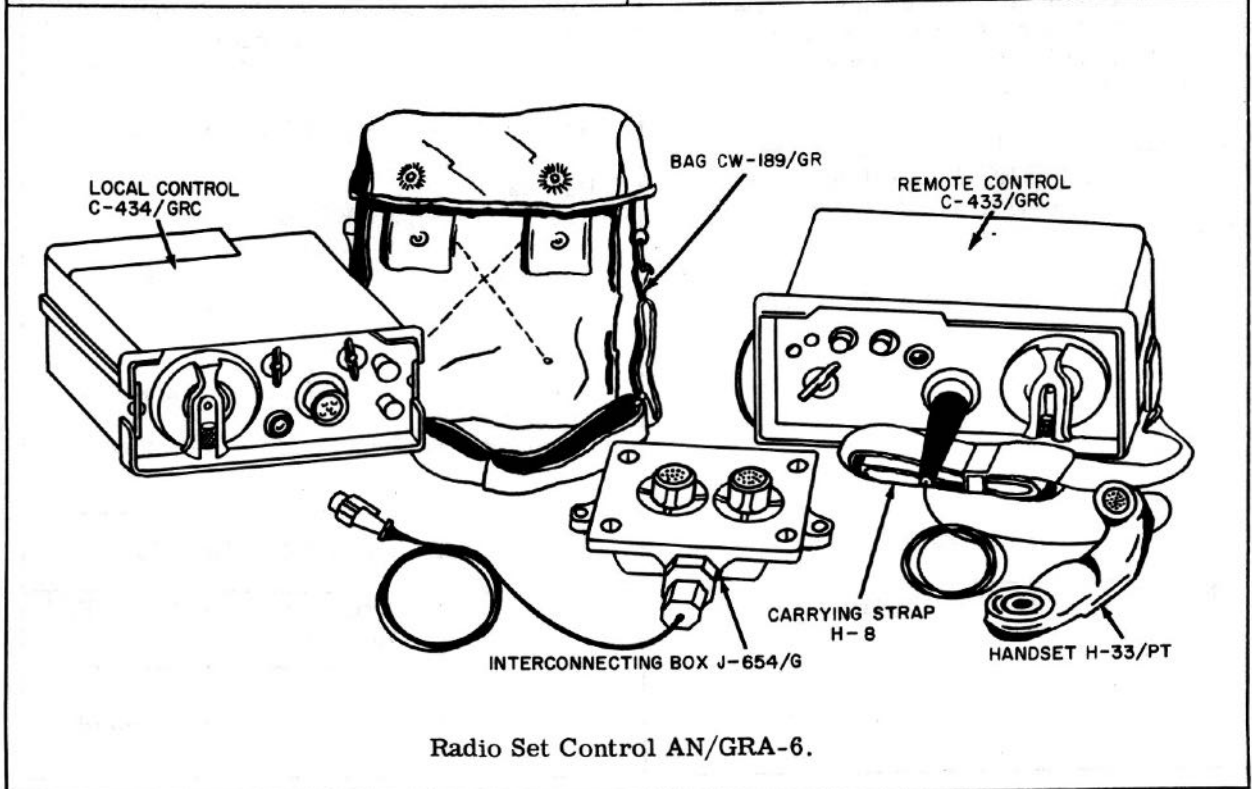


# RADIO SET CONTROL AN/GRA-6

October 1961

Radio Set Control AN/GRA-6

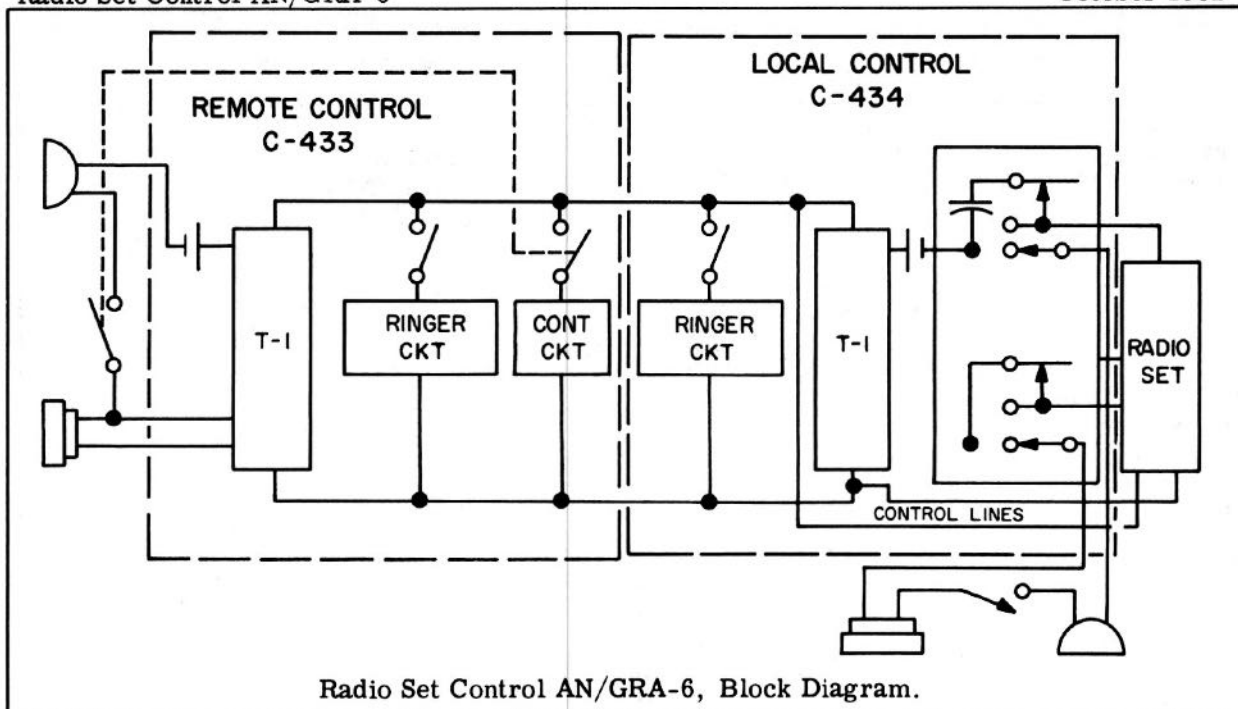
GENERAL DATA	MAJOR UNITS
<p>F. S. N: 5820-537-3848                      ID Number: 00044A                      Function: Remote control unit                      for radio sets.                      Manufacturer: Packard Bell                      Los Angeles, Calif                      Contracts: DA-36-039-SC-12145                      USMC MIPR 1636-1951</p> <p>Approximate price: \$80.                      Recommended                      operational                      checkout                      interval: <u>WEEKLY</u></p>	<p>(1) Local Control C-434/GRC                      (1) Remote Control C-433/GRC                      (1) Handset H-33/PT                      (1) Bag CW-189/GR                      (1) Interconnecting Box J-654/G</p>



# RADIO SET CONTROL AN/GRA-6

Radio Set Control AN/GRA-6

October 1961



OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS							
<p><b>Use:</b> Provides the means for controlling and operating a radio set of the push-to-talk type, using one or two receivers, transmitters, amplifiers, or the like, from a position approximately 2 miles away.</p> <p><b>Use with:</b> Radio Sets AN/VRC-3, AN/VRC-7, AN/VRC-8, AN/VRC-9, AN/MRC-35A, AN/GRC-3, AN/GRC-4, AN/GRC-5, AN/GRC-6, AN/GRC-7, and AN/GRC-8.</p> <p><b>Installation:</b> Part of mobile and ground radio equipments.</p>	<p><b>Type of operation:</b> Duplex telephone communication between local and remote positions, push-to-talk operation.</p> <p><b>Type of signal:</b> Voice and 20-cycle ringing voltage.</p> <p><b>Range:</b> Approximately 2 miles with WD-1/TT.</p> <p><b>Impedance:</b>                      Line: 600 ohms (balanced)                      Microphone: 150 ohms                      Receiving: 600 ohms (balanced or unbalanced)</p> <p><b>Remote control voltage:</b> 24 to 45 VDC.  <b>Microphone voltage:</b> 3 VDC.  <b>Ringing source:</b> 20 CPS hand cranked magneto.  <b>Received signal indication:</b> Bell or neon lamp.</p>							
SIMILAR EQUIPMENT	PHYSICAL CHARACTERISTICS							
<p>AN/GRA-11 Radio Set Control Group</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 33%;">Unit</th> <th style="width: 33%;">Overall Weight (in lbs)</th> <th style="width: 33%;">Cubic Feet</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">AN/GRA-6</td> <td style="text-align: center;">61</td> <td style="text-align: center;">3.32 (crated)</td> </tr> </tbody> </table>	Unit	Overall Weight (in lbs)	Cubic Feet	AN/GRA-6	61	3.32 (crated)	
Unit	Overall Weight (in lbs)	Cubic Feet						
AN/GRA-6	61	3.32 (crated)						

RADIO SET CONTROL AN/GRA-6

Revised  
April 1962

Radio Set Control AN/GRA-6

PUBLICATIONS

SIG 7-8, Interconnecting Box J-654/G,  
Apr 58.  
SL-3-00044A Control Group AN/GRA-6,  
Sep 61.

SL-4-00044A, Control Group AN/GRA-6,  
Aug 60, Ch 1 Jun 61, Ch 2 Jan 62.  
TM 11-5038, Control Group AN/GRA-6,  
Apr 51, Ch 1 Dec 54, and Ch 2.

RADIO SET CONTROL AN/GRA-6

Radio Set Control AN/GRA-6

October 1961

MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Operational check	Multimeter: 2 to 45 VDC, 0 to infinite ohms	AN/PSM-4A	TS-352B/U	TM 11-5038, Chapter 6, paragraphs 66 through 70.

RADIO SET CONTROL AN/GRA-6

Revised  
April 1962

Radio Set Control AN/GRA-6

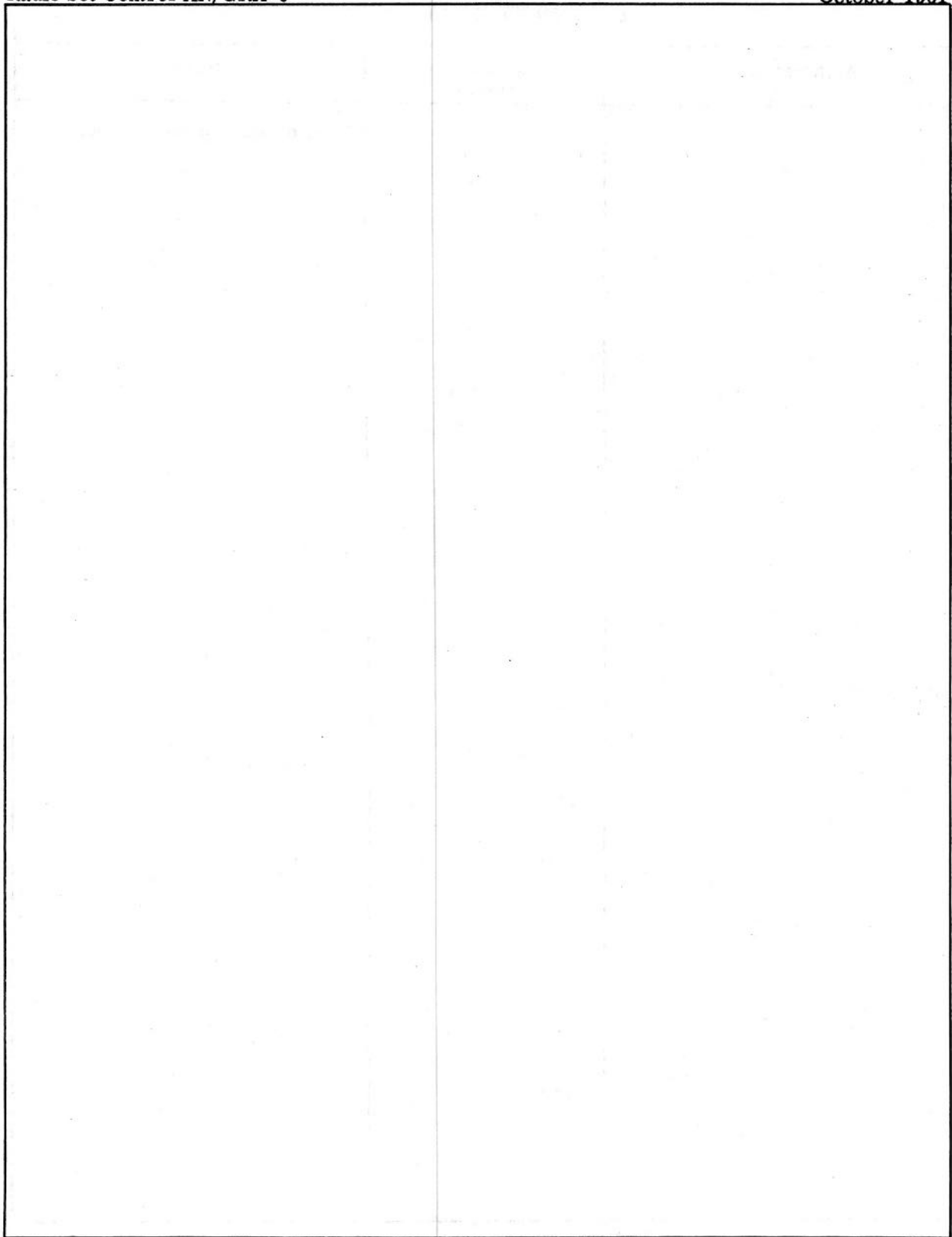
EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
		No modifications authorized.



RADIO SET CONTROL AN/GRA-6

Radio Set Control AN/GRA-6

October 1961

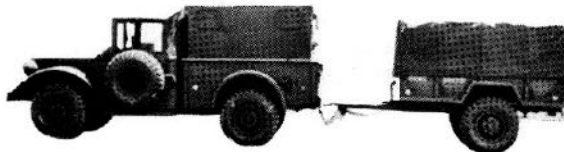
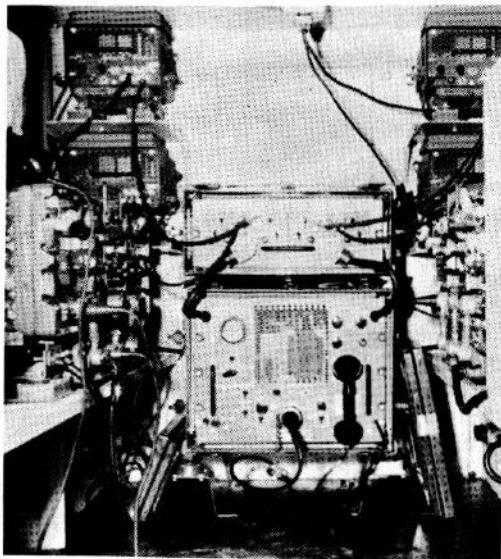


RADIO TERMINAL SET AN/MRC-62

October 1961

Radio Terminal Set AN/MRC-62

GENERAL DATA		MAJOR UNITS	
F. S. N:	5820-519-5524	(2)	Radio Sets AN/GRC-10
ID Number:	00072A	(1)	Telephone Terminal AN/TCC-3
Function:	AN/MRC-62 provides four full duplex channels of communication over approximately line of sight range. Each channel is approximately 3000 CPS wide.	(1)	Antenna Group OA-249/GRC-10
Manufacturer:	MCSC Albany	(2)	Loudspeakers LS-166/U
Contracts:	Project 54734, 54727	(1)	Multimeter TS-352B/U
Approximate price:	\$22,000.00	(1)	Trailer-mounted Power Plant PU-357/MRC; (includes two Generator Sets PE-75).
Recommended operational checkout interval:	<u>DAILY</u>	(1)	Electrical Shelter S-110/U
		(1)	Cargo Truck, 3/4-ton M-37 with winch.
		(4)	Telegraph-Telephone Converter TA-182/U

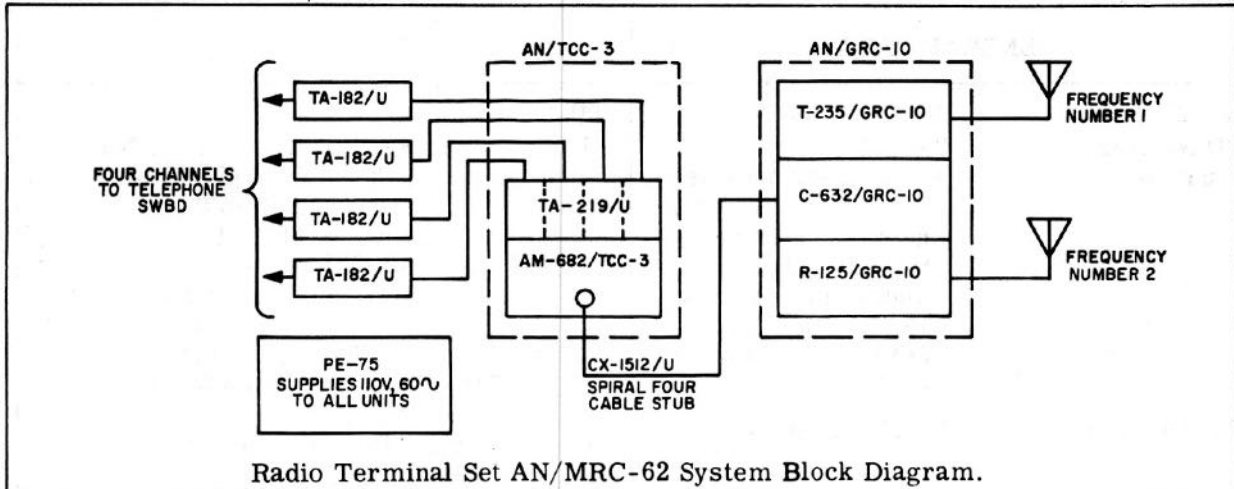


Radio Terminal Set AN/MRC-62.

# RADIO TERMINAL SET AN/MRC-62

Radio Terminal Set AN/MRC-62

October 1961



Radio Terminal Set AN/MRC-62 System Block Diagram.

OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS						
<p><b>Use:</b> A terminal facility for transmitting and receiving multichannel voice, telegraph or facsimile when used with appropriate terminal apparatus.</p> <p><b>Used with:</b> Telegraph-telephone Terminal AN/TCC-14, Teletypewriter Set AN/TGC-6, Teletypewriter Reperforator AN/GGC-3, and Radio Repeater Set AN/MRC-63.</p> <p><b>Installation:</b> Ground, fixed. Mounted in 3/4-ton truck and trailer. Shelter is detachable for helicopter lift.</p>	<p><b>Transmitter:</b></p> <p>Frequency range: 54 to 70.9 MC</p> <p>Type of signal: Voice, multichannel telephone, telegraph or facsimile; singly or in combination</p> <p>Distance range: High power; 20-50 miles Low power; 5-15 miles</p> <p>Type of modulation: FM</p> <p>Frequency deviation: <math>\pm 40</math> KC (max)</p> <p>Power output: High power; 40 watts Low power; 10 watts</p> <p>Output impedance: 50 ohms (at antenna receptacle)</p>						
<b>SIMILAR EQUIPMENTS</b>	<p><b>Receiver:</b></p> <p>Frequency range: 54 to 70.9 MC</p> <p>Type: Double conversion superheterodyne</p> <p>Signals received: FM (<math>\pm 40</math> KC max deviation)</p> <p>Frequency control: Crystal and AFC</p> <p>Sensitivity: 0.5 uv signal input for 10 db signal - plus - noise to noise ratio</p>						
<b>PHYSICAL CHARACTERISTICS</b>	<p><b>Power supply:</b></p> <p>Power input: 115 or 230 VAC, 60-65 CPS, 292 watts or 26 VDC, 326 watts</p> <p><b>Antenna:</b></p> <p>Characteristic impedance: 52 ohms</p> <p>Frequency range: 54 to 71 MC inclusive</p> <p>Type: Yagi</p>						
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">Unit</th> <th style="width: 35%;">Overall Weight (in lbs)</th> <th style="width: 50%;">Cubic Feet</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">AN/MRC-62</td> <td style="text-align: center;">12,887  (mounted in truck and trailer)</td> <td style="text-align: center;">1618</td> </tr> </tbody> </table>	Unit	Overall Weight (in lbs)	Cubic Feet	AN/MRC-62	12,887  (mounted in truck and trailer)	1618	
Unit	Overall Weight (in lbs)	Cubic Feet					
AN/MRC-62	12,887  (mounted in truck and trailer)	1618					

## PUBLICATIONS

D/L T/A NO 6420, Truck Cargo, Feb 54.	TB ORD 616, Tact-Comm Mover-Trlrs Interveh Conn, Aug 56.
D/L VOL II, Radio Set AN/MRC-62, Sep 57.	TB 9-248, Rubber Preserv Descript-Application, Sep 58.
LO 9-8030, Lubrication Order, Jul 56.	TB 9-265, Discontinuance Red Paint Mk Lub Pts, Dec 58.
LO 11-900, Power Units PE-75 Series, Feb 45.	TB 9-282, Combat Veh Protect Insul Comm Equip, Sep 59.
NAVMC ELECT 2009, Shelter Elect Equip S-110/U.	TB 9-296/64, Multimeter TS-352, A, B/U, Feb 61.
SIG M8, Generator Set PU-357/MRC, Aug 57.	TB 9-300-1/1, Combat Veh Insp Care Pres Dur Stor, May 60.
SIG M8, Radio Terminal Set AN/MRC-62, Oct 57.	TB 9-300-1/1, Combat Veh Insp Care Pres Dur Stor Nov 61, Ch 1.
SIG M8, Radio Terminal Set AN/MRC-62, Feb 61, Ch 1.	TB 9-343, ORD Veh Install-Use Overhaul Plates, Apr 60.
SIG M8, Shelter Elect Equip S-110/U, Aug 55.	TB 9-1859-2, Time Schedule Guide, Jan 53.
SIG M8 SUPP, Shelter Elect Equip S-110/U, Feb 57.	TB 9-1859-2, Time Schedule Guide, Ch 1.
SIG 7-8, Antenna Group OA-249/GRC-10, Sep 57.	TB 9-1870-1/1, Care Pneumatic Tires and Inner Tube, Jul 56.
SIG 7-8, Radio Set AN/GRC-10, Feb 58.	TB 9-1870-1/2, Pneum Tires Tubes Flaps Inst Unserv, Feb 57.
SL-3-00011C, Multimeter TS-352B/U, Jun 61.	TB 9-2300-228-20, Trouble Shoot F/Ins Cluster Wiring, Jul 60.
SL-3-00092A, Telegraph Terminal Group AN/TCC-14, Nov 60.	TB 9-2855-5, Install Personnel Heat Truck M37, Jul 53.
SL-3-00286A, Converter Telegr-Telep Sig TA-182/U, Mar 61.	TB 9-2855-6, Installation of Power Plant Heater, Sep 53.
SL-3-00669A, Tool Kit Trk 3 Ech Spcl Basl M37 M43, Feb 62.	TB 9-2855-45, Installation of Hot Water Heater Kt, Dec 56.
SL-3-00670A, Tool Kit Trk 4 Ech Spcl Basl M37 M43, Feb 62.	TM 5-687, Fire Protection Equipment Repair of, Dec 57.
SL-3-00684A, Tool Kit Org Maint 2 Ech Set B Basic, Apr 60.	TM 9-207, Oper Maint Ordmatl in Extreme Cold, Sep 59.
SL-4-00092A, Telegraph Terminal Group AN/TCC-14, Sep 60.	TM 9-236, Military Tactical Vehicles, Sep 60.
SL-4-00286A, Converter Telegraph Signal TA-182/U, Sep 60.	TM 9-1825B, Electrical Equipment Auto-Lite, Nov 52.
SNL G-249, ORD 8 V10, Winterization Equipment M37, Feb 55.	TM 9-1826A, Carburetors, Dec 52.
SNL G-741 ORD 8, Chassis Truck 3/4 Ton 4x4, Jan 57.	TM 9-1827C, Brake-Misc Equip Wagner-Lockhead, Jan 53.
SNL G-741 ORD 9, Truck Cargo M37 M42 M43, Jan 54.	TM 9-1828A, Fuel Pumps, Dec 52.
TB ORD 245, STD/Proced Dep O/Haul ORD Tank-Auto, Aug 61.	TM 9-1828A, Fuel Pumps, Ch 1.
TB ORD 392, Int Lub New Rebuilt Gas Eng B Use, Sep 60.	TM 9-1829A, ORD Maint Speedometers Tachometers, Apr 44.
TB ORD 460, Liq Cool Eng-Equip Clean Drain Hole, Jul 52.	TM 9-1840A, ORD Maint Engine Clutch M37 M43, Jun 52.
TB ORD 485, M Models Servicing Data Plate Corr, Jan 53.	TM 9-1870-1, Care and Maint of Pneumatic Tires, Feb 55.
TB ORD 524, Installed Metal Tanks Clean-Preserv, Jun 53.	TM 9-1870-1, Care and Maint of Pneumatic Tires, Ch 1.

## PUBLICATIONS

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| <p>TM 9-2320-212-20P, Orgn Repair Pts Spl Tools 3/4T 4x4, Feb 60.</p> <p>TM 9-2853, Prep Ord Mtl F/Deep Water Fording, Jul 45.</p> <p>TM 9-2853, Prep Ord Mtl F/Deep Water Fording, Ch 1.</p> <p>TM 9-6140-200-15, Oper-Org F-D Maint Stor Bat Lead AC, Jul 58.</p> <p>TM 9-8000, Principles of Automotive Vehicles, Jan 56.</p> <p>TM 9-8030, Operation-Organizational Maint, May 55.</p> <p>TM 9-8030, Operation-Organizational Maint, Mar 56, Ch 1.</p> <p>TM 9-8030, Operation-Organizational Maint, Dec 57, Ch 2.</p> <p>TM 9-8030, Operation-Organizational Maint, Aug 58, Ch 3.</p> <p>TM 9-8030, Operation-Organizational Maint, Ch 4.</p> <p>TM 9-8030, Operation-Organizational Maint, Ch 5.</p> <p>TM 9-8031-2, Power Train Body and Frame, May 53.</p> <p>TM 9-8031-2, Power Train Body and Frame, Feb 54, Ch 1.</p> <p>TM 9-8031-2, Power Train Body and Frame, Jun 56, Ch 2.</p> <p>TM 9-8662, Fuel Burn Heat F/Winter Equipment, Mar 54.</p> <p>TM 11-614, Radio Set AN/GRC-10, 39, 40, Nov 54.</p> <p>TM 11-614, Radio Set AN/GRC-10, 39, 40, Feb 56, Ch 1.</p> <p>TM 11-614, Radio Set AN/GRC-10, 39, 40, Ch 2.</p> <p>TM 11-614, Radio Set AN/GRC-10, 39, 40, Jun 57, Ch 3.</p> <p>TM 11-614, Radio Set AN/GRC-10, 39, 40, Jul 57, Ch 4.</p> <p>TM 11-900, Power Units PE-75 Series, Sep 45.</p> <p>TM 11-2239, Telegraph Terminal Group AN/TCC-14, Apr 52.</p> <p>TM 11-2239, Telegraph Terminal Group AN/TCC-14, Ch 1.</p> | <p>TM 11-2239, Telegraph Terminal Group AN/TCC-14, Sep 55, Ch 2.</p> <p>TM 11-5527, Multimeters TS-352-A-B/U, Oct 56.</p> <p>TM 11-5527, Multimeters TS-352-A-B/U, Feb 57, Ch 1.</p> <p>TM 11-5527, Multimeters TS-352-A-B/U, Dec 57, Ch 2.</p> <p>TM 11-5805-223-10P, Telephone Terminal AN/TCC-3, Feb 59.</p> <p>TM 11-5805-223-20P, Telephone Terminal AN/TCC-3, Feb 59.</p> <p>TM 11-5805-223-35P, Telephone Terminal AN/TCC-3, Mar 59.</p> <p>TM 11-5805-224-20P, Telephone Modem TA-219/U, Jan 61.</p> <p>TM 11-5805-224-35P, Telephone Modem TA-219/U, Sep 60.</p> <p>TM 11-5805-295-12P, Mountings MT-791/U-MT-791A/U, Mar 60.</p> <p>TM 11-5805-295-35P, Mountings MT-791/U-MT-791A/U, Mar 60.</p> <p>TM 11-5965-202-12P, Handsets H-33/PT Series, Apr 59.</p> <p>TM 11-5965-202-35, Handsets H-33/PT Series, May 59.</p> <p>TM 11-5965-202-35P, Handsets H-33, E, F/PT, Jan 61.</p> <p>TM 11-5965-222-15P, Dynamic Loudspeaker LS-166/U, Jul 59.</p> <p>TM 11-6115-206-10P, Power Units PE-75 Series, Jul 59.</p> <p>TM 11-6115-206-20P, Power Units PE-75 Series, Jul 59.</p> <p>TM 11-6115-206-35P, Power Units PE-75 Series, Jul 59.</p> <p>TM 21-300, Driver Selection and Training, Dec 58.</p> <p>TM 21-305, Manual for Wheeled Vehicles, Dec 56.</p> <p>TM 21-305, Manual for Wheeled Vehicles, Ch 1.</p> <p>TM 11240-1, USMC TM Tactical Mt Veh Prev Maint, Feb 61.</p> |
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RADIO TERMINAL SET AN/MRC-62

October 1961

Radio Terminal Set AN/MRC-62

MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Organizational maintenance of AN/TCC-3	Multimeter: 0.89 to 300 VDC continuity checks	TS-297/U	AN/PSM-4A	TM 11-2142, paragraphs 76 through 90.
	Electron tube tester	TV-7/U	TV-3*	
Field maintenance of AN/TCC-3	Multimeter: 1.3 to 200 VDC, 3.15 VAC, and 12 to 470 K ohms	TS-352 ( )/U	AN/PSM-4A ME-25 ( )/U	TM 11-2142, paragraphs 237 through 387.
	Signal generator** 1000 to 19,000 CPS	SG-15/PCM	TS-382 ( ) U	
	VTVM: 0.1 to 20 VAC	ME-6 U	ME-30 U ME-25 ( ) U	
	Frequency meter: 300 to 20,000 CPS	FR-67 U	AN USM-122	
	Output meter*** -45 to + 16 db	ME-22 PCM	ME-30C U TS-140 PCM*	
	DC ammeter: 7.5 to 36 ma	TS-352 U	AN PSM-4	
Maintenance of TA-182/U	See Telegraph Telephone Converter TA-182/U			
Maintenance of AN/GRC-10	See Radio Relay Set AN/MRC-63			
	*Non T/A item **Two generators required ***Normally fourth or fifth echelon			

RADIO TERMINAL SET AN/MRC-62

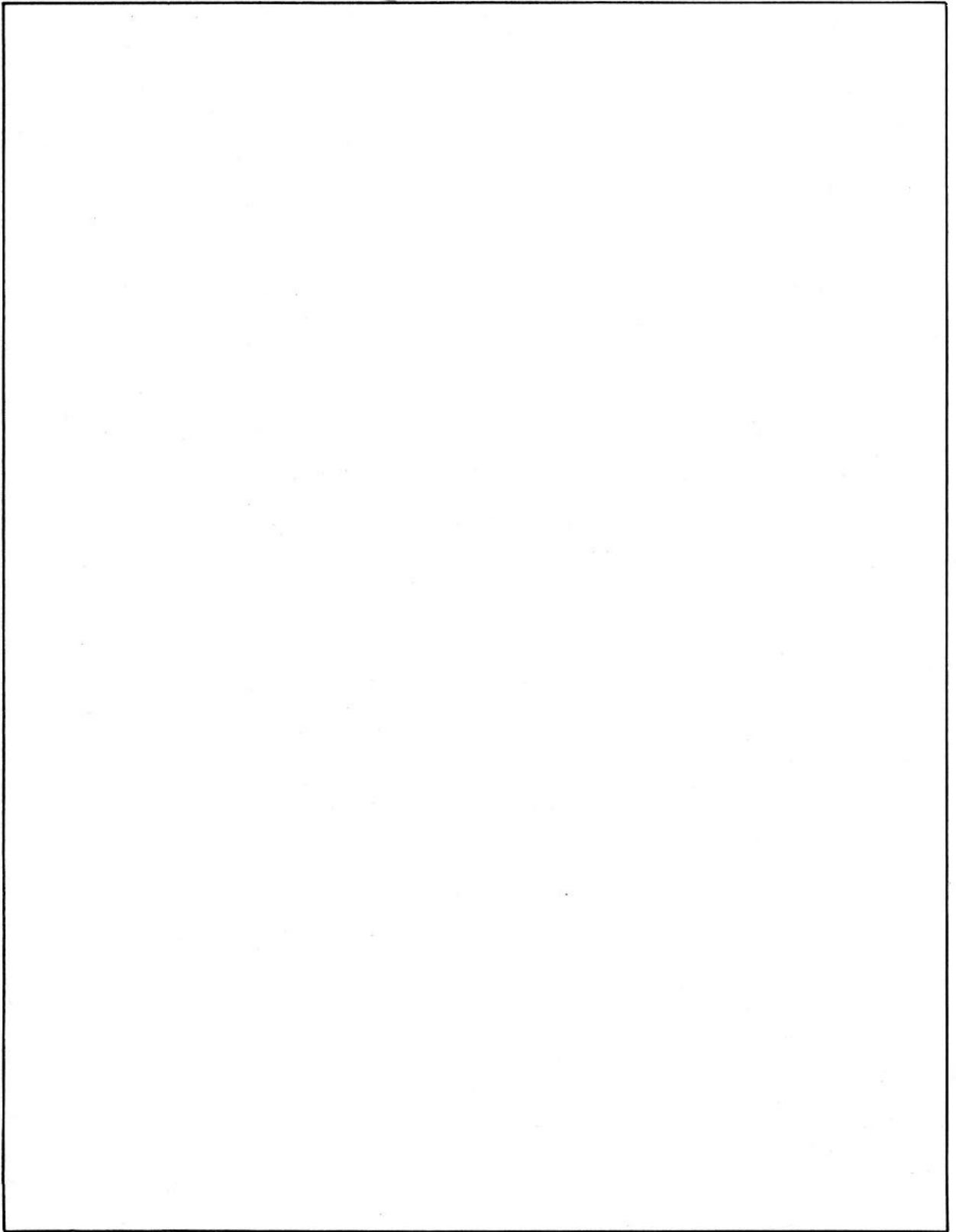
Radio Terminal Set AN/MRC-62

October 1961

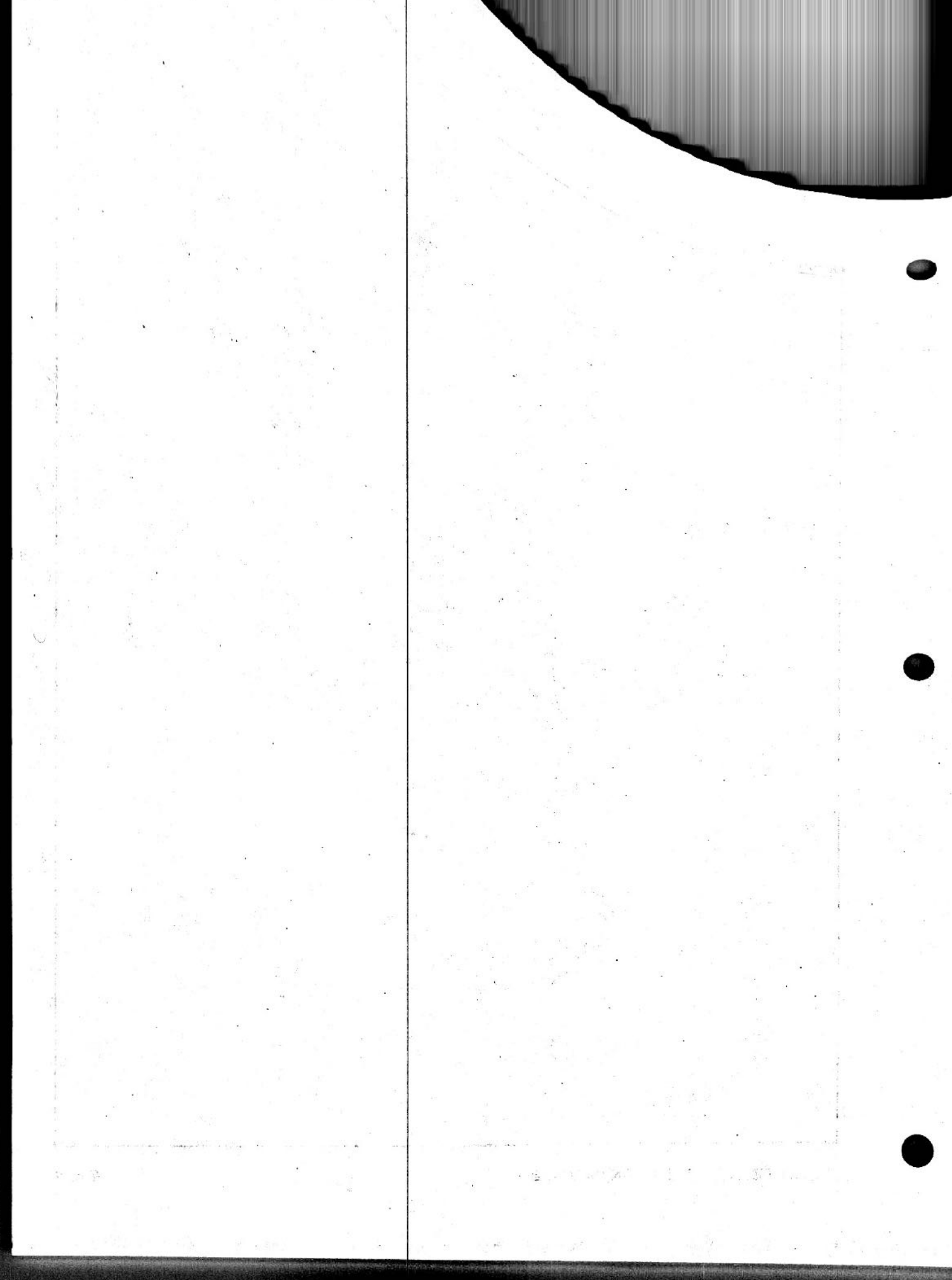
EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
MCO 2005.11 Sup 2: To improve discriminator.	Transmitter T-235/GRC-10, serial numbers 1 through 229 manu- factured under Order Number 92 Phila 52, and serial numbers 1 through 75 manu- factured under Order Number 1998 Phila 51.	Seal-type discriminator replaces original T204. Also replace- ment of meter circuit compo- nents. R-249, R-251, R-252, R-287, and C-243.
MCO 2005.11 Sup 3: To eliminate interruptions of the wideband amplifier.	Transmitter T-235/GRC-10 pre- viously modified under MCO 2005.99.	Replacement of switch S202 to permit the RING contacts to make before the MIKE contacts <u>break</u> .
MCO 2005.11 Sup 4: To eliminate meter variations.	Transmitter T-235/GRC-10.	Installation of shielded conductor between C-265 and C-259.
MCO 2005.17 Sup 2: To change fuse.	AM-682/TCC-3 AN/MRC-62	Change F552 from 1 amp to 0.5 amp and change F551 from 3 amp to 1 amp.
MCO 2005.17 Sup 3: To prevent damage to meter calibrating resistors, and change the location of the test probe.	AN/TCC-3 AN/MRC-62	Addition of new resistor assembly. New resistors (TB772) R780 400 ohms, R790 400 ohms, R791 200 ohms, R792 100 ohms, and R794 50 ohms.
MCO 2005.17 Sup 4: To replace exhaust hose PA-357/MRC.	Power Unit PE-75	Replacement of existing exhaust pipe with asbestos interlaced, metallic hose.
MCO 2005.17 Sup 5: To provide for changing polarization of antenna	Antenna AS-620/GRC-10	Addition of 90° antenna adapter.
MCO 2005.17 Sup 6: To modify handset cord (TS-9-F).	TS-9-F AN/MRC-62	Addition of retractable cord to TS-9-F.
MCO 2005.17 Sup 7: To provide for quick removal of AN/TCC-3.	AN/TCC-3 AN/MRC-62	Addition of two "L" mounting brackets to mounting rack.

October 1961

Radio Terminal Set AN/MRC-62





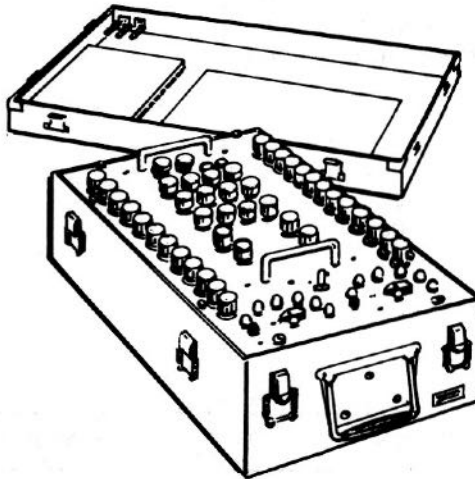


SIGNAL ASSEMBLY SWITCHBOARD SB-223/GR

October 1961

Signal Assembly Switchboard SB-223/GR

GENERAL DATA	MAJOR UNITS
<p>F. S. N: 5805-503-2614                      ID Number: 00278A                      Function: Expands the facilities of sound ranging sets.                      Manufacturer: Connecticut Telephone &amp; Electric Corp. Meridan, Conn.                      Contracts: 3411-PH-58                      Approximate price: \$350.00                      Recommended operational checkout interval: <u>WEEKLY</u></p>	<p>(1) Switchboard Signal Assembly SB-223/GR</p>

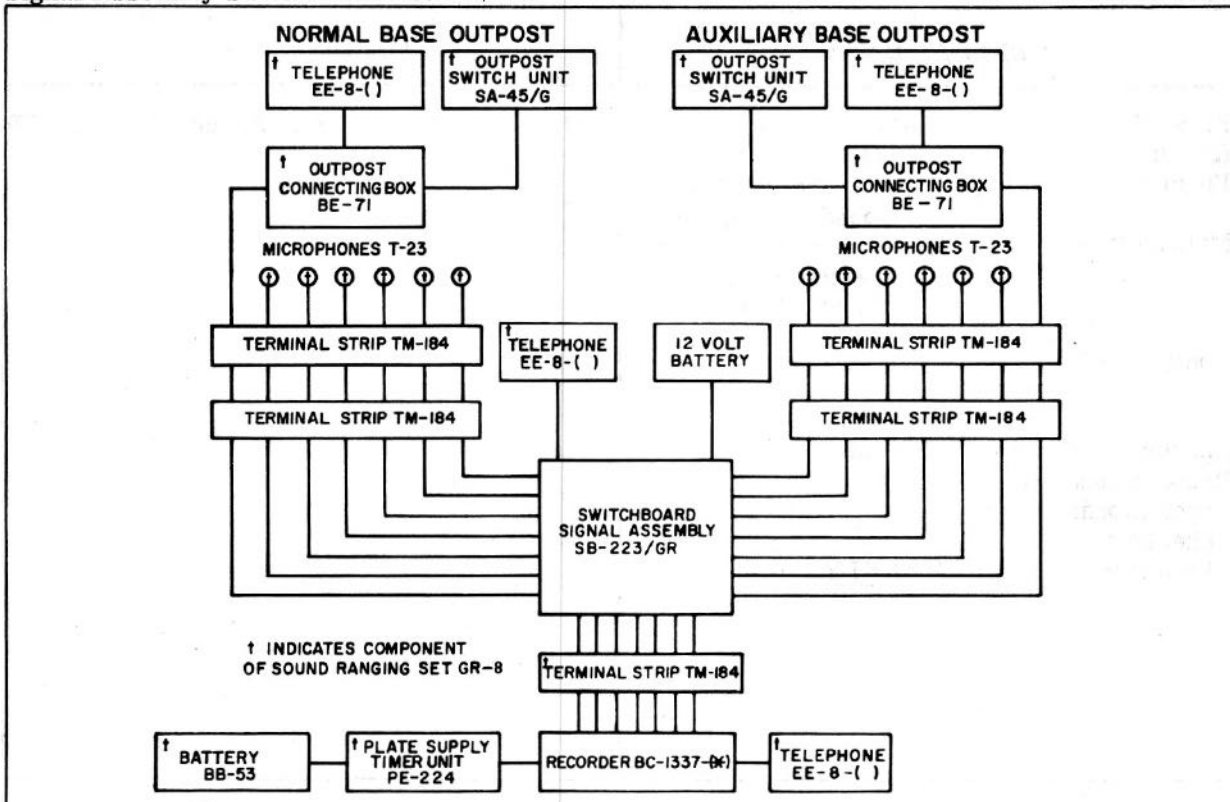


Signal Assembly Switchboard SB-223/GR.

# SIGNAL ASSEMBLY SWITCHBOARD SB-223/GR

Signal Assembly Switchboard SB-223/GR

October 1961



Signal Assembly Switchboard SB-223/GR, Simplified System Block Diagram.

OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS	
<p><b>Use:</b> Signal Assembly Switchboard SB-223/GR is a portable unit designed to expand the facilities of sound ranging sets by permitting the use of six auxiliary base microphones in addition to six normal base microphones. This allows the recording of enemy gun fire from either of two strategic areas (normal or auxiliary base). A conference telephone circuit is available at all times between the recorder operator, the central (switchboard) operator, the normal base operator, and the auxiliary base operator.</p> <p><b>Used with:</b> Sound Ranging Set GR-8.</p> <p><b>Installation:</b> Portable.</p>	<p><b>Switchboard capacity:</b> 12 microphone lines, 6 recorder channels, 4 telephone lines.</p> <p><b>Power requirements:</b> 12 VDC, 0.68 amp.</p> <p><b>Protection:</b> Lightning arrestors on microphone lines and two telephone lines.</p>	
SIMILAR EQUIPMENTS	PHYSICAL CHARACTERISTICS	
	Unit	Overall Weight (in lbs)
	SB-223/GR	25
		Cubic Feet
		2 (crated)

SIGNAL ASSEMBLY SWITCHBOARD SB-223/GR

October 1961

Signal Assembly Switchboard SB-223/GR

PUBLICATIONS

D/L VOL III, Signal Assembly Switchboard  
SB-223/GR, Mar 58.

SIG 7-8, Signal Assembly Switchboard  
SB-223/GR, Sept 56.  
TM 11-2149, Signal Assembly Switchboard  
SB-223/GR, Dec 54.

SIGNAL ASSEMBLY SWITCHBOARD SB-223/GR

Signal Assembly Switchboard SB-223/GR

October 1961

MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Organizational maintenance	No special tools or equipment required.			TM 11-2149, paragraphs 26 through 36.
Field maintenance	Multimeter: Continuity checks	TS-352/U	AN/PSM-4	TM 11-2149, paragraphs 43 through 51.
Final testing	Multimeter: Continuity checks	TS-352/U	AN/PSM-4 ME-25 ( )/U	TM 11-2149, paragraphs 52 through 58.
	Current measurement and control for relay testing	TS-I-181		

SIGNAL ASSEMBLY SWITCHBOARD SB-223/GR

October 1961

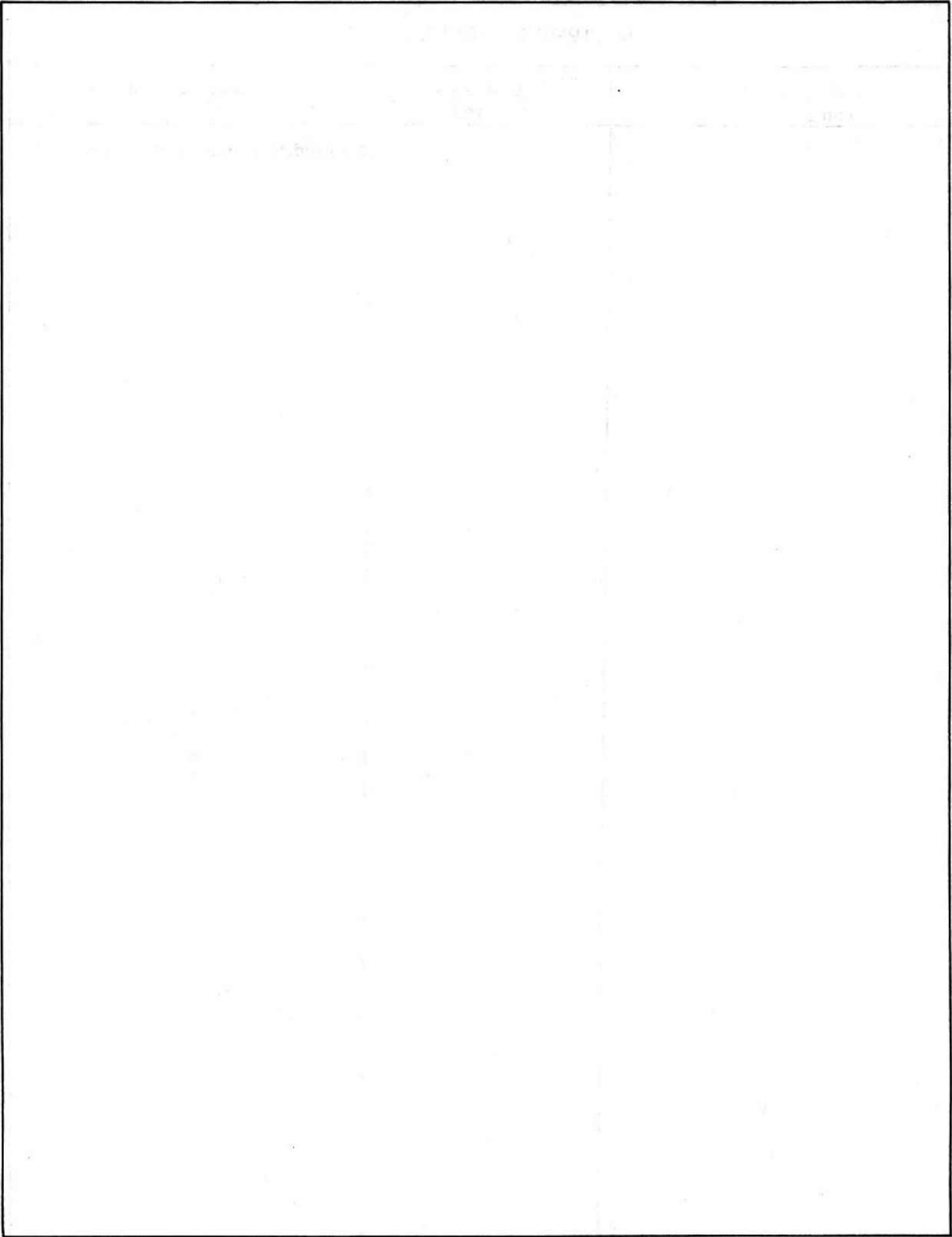
Signal Assembly Switchboard SB-223/GR

<b>EQUIPMENT MODIFICATIONS</b>		
<b>Authorization and Purpose</b>	<b>Equipments Affected</b>	<b>Identification</b>
		No modifications authorized.

SIGNAL ASSEMBLY SWITCHBOARD SB-223/GR

Signal Assembly Switchboard SB-223/GR

October 1961

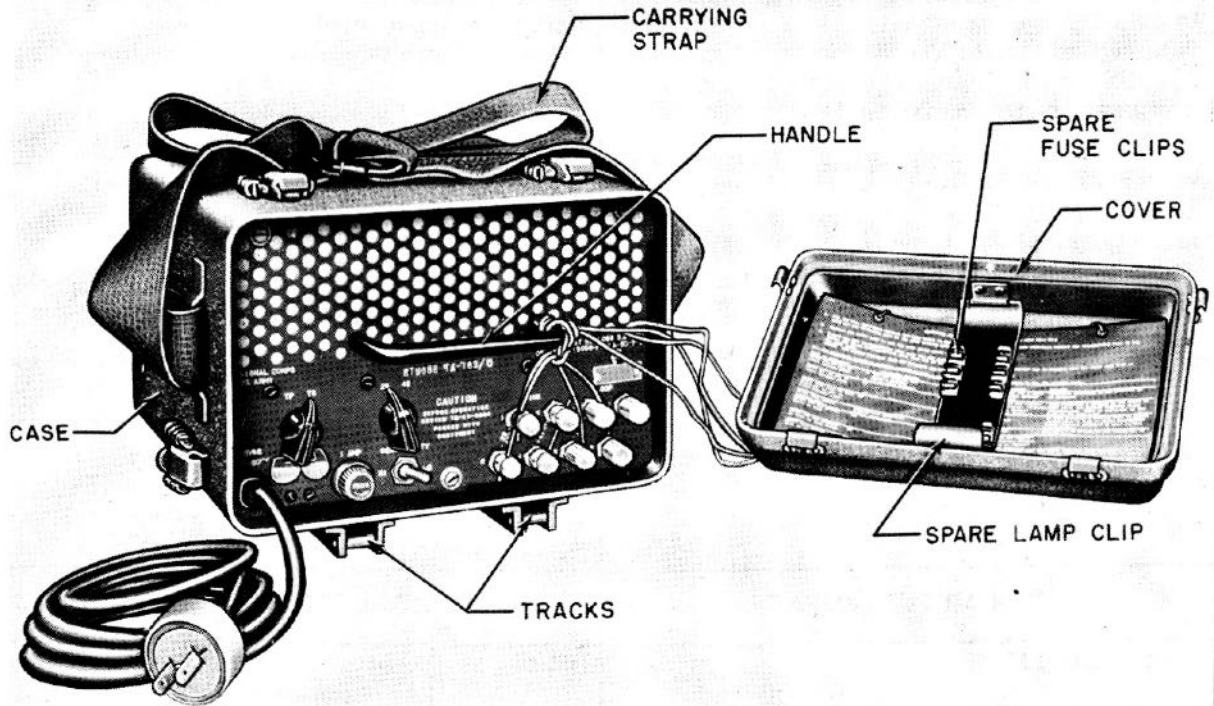


TELEGRAPH-TELEPHONE SIGNAL CONVERTER TA-182/U

October 1961

Telegraph-Telephone Signal Converter TA-182/U

GENERAL DATA	MAJOR UNITS
<p>F. S. N: 5805-263-3326                      ID Number: 00286A                      Function: Converts ringing signals to either a higher or lower frequency.                      Manufacturer: USASSA Electronics Assistance Corporation, Redbank, N. J.                      Contracts: Order No. 42728-PC-59-C4-C4                      DA-366-039-SC-81588                      USMC MIPR R59-94109                      Approximate Price: \$200.00                      Recommended operational checkout interval: <u>WEEKLY</u></p>	<p>(1) Telegraph-Telephone Signal Converter TA-182/U</p>



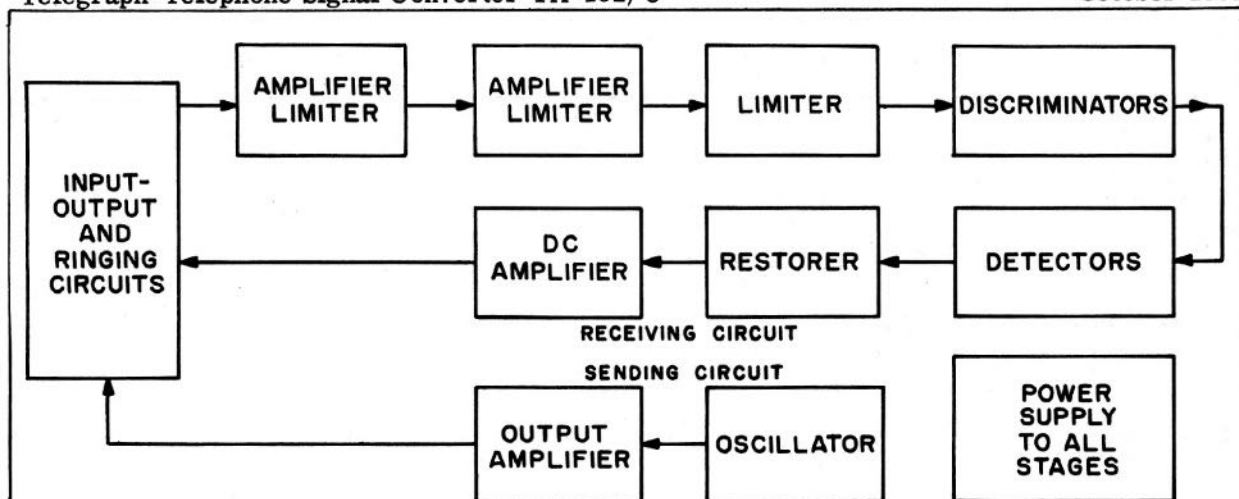
Telegraph-Telephone Signal Converter TA-182/U.



TELEGRAPH-TELEPHONE SIGNAL CONVERTER TA-182/U

Telegraph-Telephone Signal Converter TA-182/U

October 1961



Telegraph-Telephone Signal Converter TA-182/U, Block Diagram.

OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS		
<p><b>Use:</b> Telegraph-Telephone Signal Converter TA-182/U converts 20-cycles-per-second (CPS) ringing signals to either 1225- or 1600-CPS ringing signals. It also converts either 1225- or 1600-CPS ringing signals to 20-CPS ringing signals. It is used to provide signaling over circuits that will not pass 20-CPS ringing signals because of line or equipment characteristics.</p> <p><b>Used with:</b> Telephone-Telegraph Signal Converter TA-182/U can be used in circuit applications with Telegraph Terminal TH-5/TG and Electrical Filter Assembly F-98/U which are not supplied with the equipment.</p> <p><b>Installation:</b> Ground/Fixed.</p>	<p><b>Circuit application:</b> Used with either 2-wire or 4-wire systems.</p> <p><b>Line bridging impedance:</b> 5000 ohms (approx).</p> <p><b>Minimum input level (sensitivity):</b>                      Ringing signals: 25 volts.                      VFsignals: -45 dbm.</p> <p><b>Output levels:</b>                      Loop: 90 ± 10 volts AC.                      Line:                      Telegraph: 0 ± 2 dbm.                      Telephone: +4 dbm to -2 dbm.</p> <p><b>Power consumption:</b> 36 watts (approx).</p> <p><b>Power requirement:</b> 115 VAC ± 10%, 50 to 60 CPS.</p> <p><b>Signaling frequencies:</b>                      Loop: 20 ± 3 CPS.                      Line:                      Telegraph: 1225 ± 8 CPS.                      Telephone: 1600 ± 8 CPS.</p>		
SIMILAR EQUIPMENTS	PHYSICAL CHARACTERISTICS		
Ringer EE-101.	Unit	Overall Weight (in lbs)	Cubic Feet
	TA-182/U	27	1.12 (crated)

TELEGRAPH-TELEPHONE SIGNAL CONVERTER TA-182/U

October 1961

Telegraph-Telephone Signal Converter TA-182/U

PUBLICATIONS

SL-3-00286A, Converter Telegraph-Telephone Signal TA-182/U, Mar 61.

SL-4-00286A, Converter Telephone-Telegraph TA-182/U, Sep 60.

TM 11-5805-247-10, Converter Telegraph-Telephone TA-182/U, Jun 60.

TM 11-5805-247-20, Converter Telegraph-Telephone TA-182/U, Jun 60.

TM 11-5805-247-35, Converter Telegraph-Telephone TA-182/U, Nov 60.

TELEGRAPH-TELEPHONE SIGNAL CONVERTER TA-182/U

Telegraph-Telephone Signal Converter TA-182/U

October 1961

MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Organizational maintenance	No special tools or equipment required			TM 11-5805-247-10, paragraphs 15 through 17.
Third echelon adjustments	Tool equipment	TE-123		TM 11-5805-247-35, paragraphs 26 through 29.
	Telephone set	TA-312/PT		
	Frequency meter: 1600 CPS	FR-67/U	HP-524/D* AN/USM-122	
	Decibel meter: -2 dbm to +4 dbm	ME-22/PCM	ME-30C/U	
Alignment	Frequency meter: 1225 and 1600 CPS	FR-67/U	HP-524D* AN/USM-122	TM 11-580-247-35, paragraphs 30 through 33.
	Decibel meter: -2 to +4 dbm	ME-22/PCM	ME-30C/U	
	Capacitor checker: 47 to 680 uuf	TS-460/U	ZM-11A/U 60007	
	Signal generator	SG-15/PCM	TS-382( )/U	
	Multimeter: 10 to 74 VDC	TS-352( )/U	AN/PSM-4A	
Fourth echelon adjustments	Signal generator: 1600 CPS	SG-15/PCM	TS-382( )/U	TM 11-5805-247-35, paragraphs 34 through 40.
	Frequency meter: 20 to 1600 CPS	FR-67/U	HP-524D* AN/USM-122	
	Multimeter: 65 to 75 VAC	TS-352( )/U	AN/PSM-4A	
	Telephone set	TA-312/PT		
	Decibel meter: -2 to +4 dbm	ME-22/PCM	ME-30C/U	
	Ringer	TA-48/FT		
	* Non T/A item.			

TELEGRAPH-TELEPHONE SIGNAL CONVERTER TA-182/U

October 1961

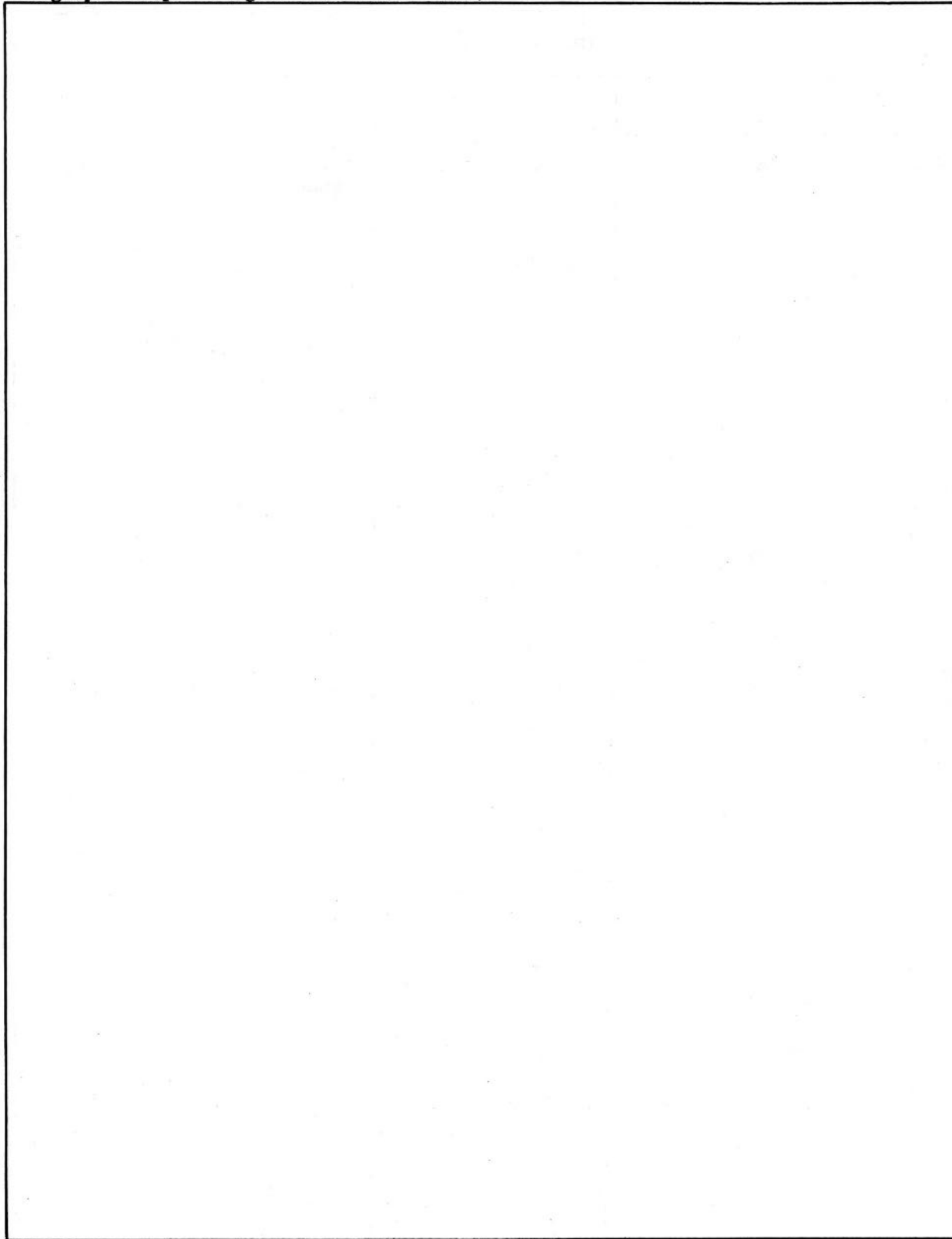
Telegraph-Telephone Signal Converter TA-182/U

EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
MCO 2005.23 Sup 2A: Installation of ringing circuit.	TA-182/U	Addition of test switch on front panel.

TELEGRAPH-TELEPHONE SIGNAL CONVERTER TA-182/U

Telegraph-Telephone Signal Converter TA-182/U

October 1961

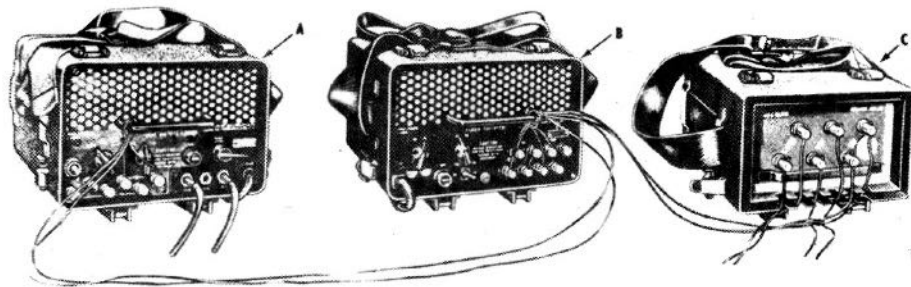


TELEGRAPH TERMINAL GROUP AN/TCC-14

October 1961

Telegraph Terminal Group AN/TCC-14

GENERAL DATA	MAJOR UNITS
<p>F. S. N.: 5805-238-9873                      ID Number: 00092A                      Function: Permits simultaneous transmission of tele-typewriter and voice signals over an existing telephone facility.</p> <p>Manufacturer: North Electric, Galion, Ohio.</p> <p>Contracts: Order #19742-PH-58-51</p> <p>Approximate price: \$2500.                      Recommended operational checkout interval: <u>WEEKLY</u></p>	<p>(1) Electrical Filter Assembly, F-98/U.                      (1) Telegraph-Telephone Signal Converter TA-182/U.                      (1) Telegraph Terminal TH-5/TG.</p>



Telegraph Terminal Group AN/TCC-14.

TELEGRAPH TERMINAL GROUP AN/TCC-14

Telegraph Terminal Group AN/TCC-14

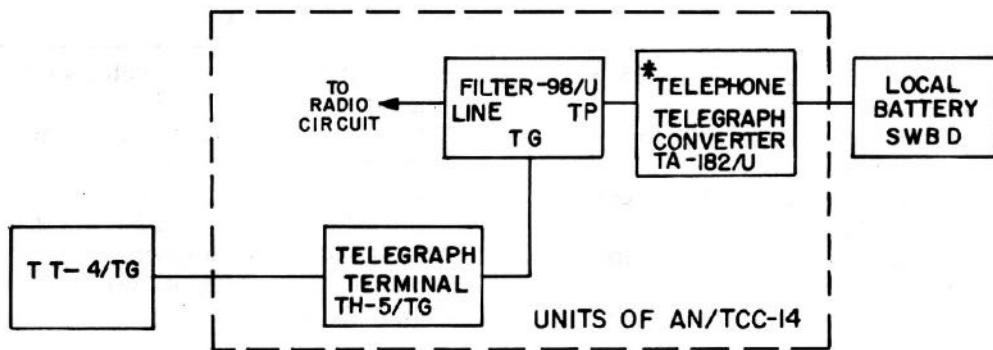
October 1961

OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS								
<p>Use: In point-to-point, network, switched, and radio remote control systems: does not require a special DC teletypewriter switchboard. Voice frequency telegraph loops may be switched through common or local battery telephone switchboards.</p> <p>Use with: Communication with only another AN/TCC-14.</p> <p>Installation: Ground, fixed.</p> <p>Maximum system length: Approximately 21 miles on wire WD-1/TT, dry.</p>	<p>Will transmit on any existing two-wire voice telephone facility. May be used on four-wire facility with addition of Voice Frequency Hybrid TA-31/U.</p> <p>Facilities afforded: Two-wire. Provides one channel for simultaneous voice and telegraph transmission, voice alone, or telegraph alone.</p> <p>Frequency: Voice-frequency range.</p> <p>Type of modulation: Frequency shift.</p> <p>Type ringing:                      Telegraph: 1,225 CPS                      Telephone: 1,600 CPS</p> <p>Power requirements: 60 watts, 115 volts, 50-60 CPS.</p>								
SIMILAR EQUIPMENTS	PHYSICAL CHARACTERISTICS								
	<table border="1"> <thead> <tr> <th data-bbox="718 1024 929 1108">Unit</th> <th data-bbox="929 1024 1176 1108">Overall Weight (in lbs)</th> <th data-bbox="1176 1024 1338 1108">Cubic Feet</th> </tr> </thead> <tbody> <tr> <td data-bbox="718 1108 929 1818">AN/TCC-14</td> <td data-bbox="929 1108 1176 1818">66 (in 3 packages)</td> <td data-bbox="1176 1108 1338 1818">4 (crated)</td> </tr> </tbody> </table>	Unit	Overall Weight (in lbs)	Cubic Feet	AN/TCC-14	66 (in 3 packages)	4 (crated)		
Unit	Overall Weight (in lbs)	Cubic Feet							
AN/TCC-14	66 (in 3 packages)	4 (crated)							

TELEGRAPH TERMINAL GROUP AN/TCC-14

October 1961

Telegraph Terminal Group AN/TCC-14



\*Refer to TM 11-2137 for Basic Block Diagram.

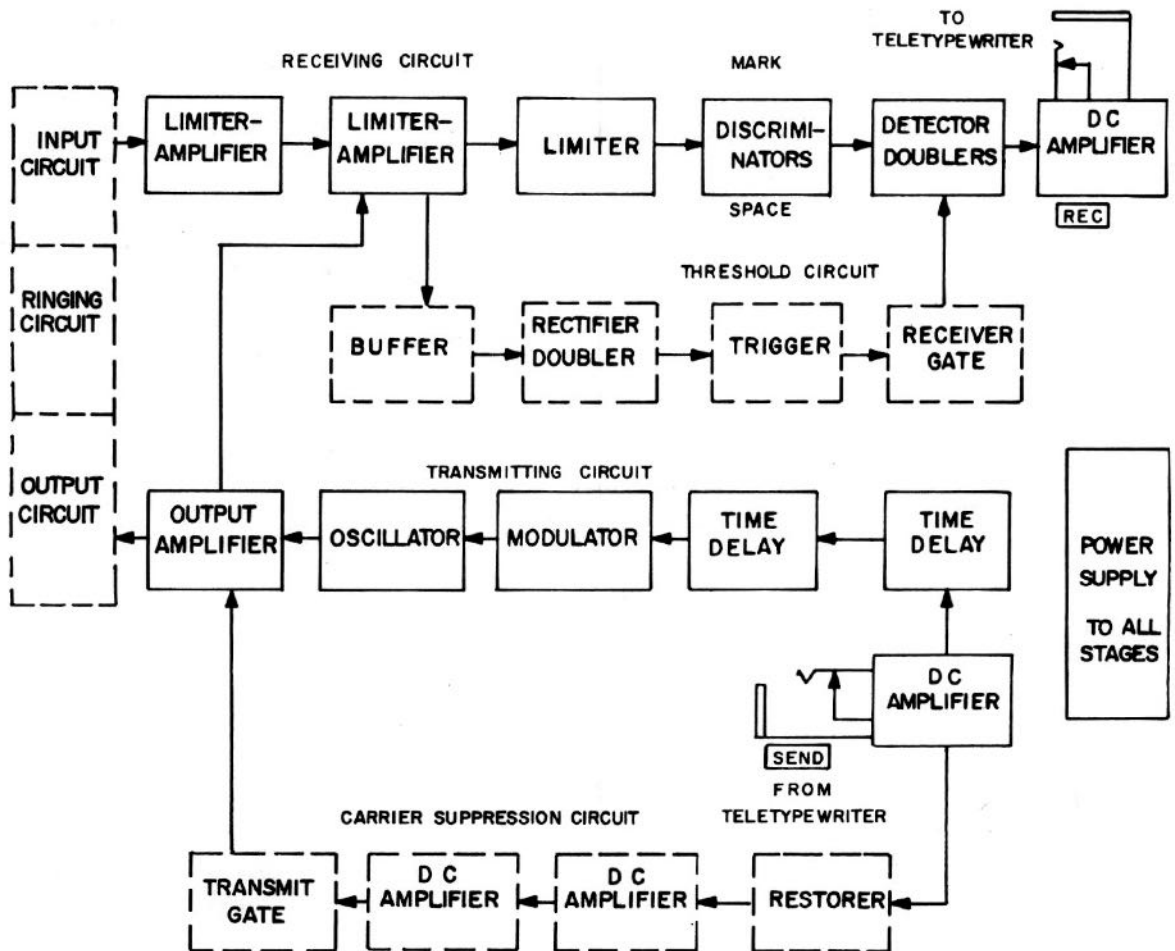


Diagram Showing:

- A. Installation of Telegraph Terminal Group AN/TCC-14
- B. Block Diagram of Telegraph Terminal TH-5/TG



TELEGRAPH TERMINAL GROUP AN/TCC-14

Telegraph Terminal Group AN/TCC-14

October 1961

PUBLICATIONS

SL-3-00092A Telegraph Terminal Group,  
AN/TCC-14, Nov 60.  
SL-3-00286A Converter Teleg-Telep Sig,  
TA-182/U, Mar 61.  
SL-4-00092A Telegraph Terminal Group,  
AN/TCC-14, Sep 60.  
SL-4-00286A Converter Tele-Telegraph,  
TA-182/U, Sep 60.

TM 11-2239 Telegraph Telephone Termi-  
nal, AN/TCC-14, Apr 52.  
TM 11-2239 Telegraph Telephone Termi-  
nal, AN/TCC-10, Ch 1.  
TM 11-2239 Telegraph Telephone Termi-  
nal, AN/TCC-14, Sep 55, Ch 2.  
TM 11-5805-254-15 Operational and Organ-  
izational Field-Depot Maintenance,  
AN/TCC-14, Nov 60.

TELEGRAPH TERMINAL GROUP AN/TCC-14

October 1961

Telegraph Terminal Group AN/TCC-14

MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Transmitting alignment	Frequency meter: 1225 and 1325 CPS	FR-67/U	*AN/USM-122 *AN/USM-45 HP-524D	TM 11-2239, paragraph 104.
Alternate transmitting alignment	Oscilloscope	OS-8/U	AN/USM-24() AN/USM-79	TM 11-2239, paragraph 105.
	Telegraph Terminal	TH-5/TG		
Send-bias adjustment	Teletype signals: R and Y	Test Set I-193-C	Teletype-writer Set AN/GGC-3A	TM 11-2239, paragraph 106.
Receiving circuit alignment	Teletype signals: R and Y	Test Set I-193-C	Teletype-writer Set AN/GGC-3A	TM 11-2239, paragraph 109.
Alternate receiving circuit alignment	Signal generator: 1287 CPS	SG-15/PCM	TS-382(), U	TM 11-2239, paragraph 110.
	Multimeter: 0 VDC	TS-352(), U	AN, PSM-4A	
Organizational maintenance	No special equipment required			TM 11-2239, Chapter 3, paragraphs 35 through 45.

\* Not a T/A item.

TELEGRAPH TERMINAL GROUP AN/TCC-14

Telegraph Terminal Group AN/TCC-14

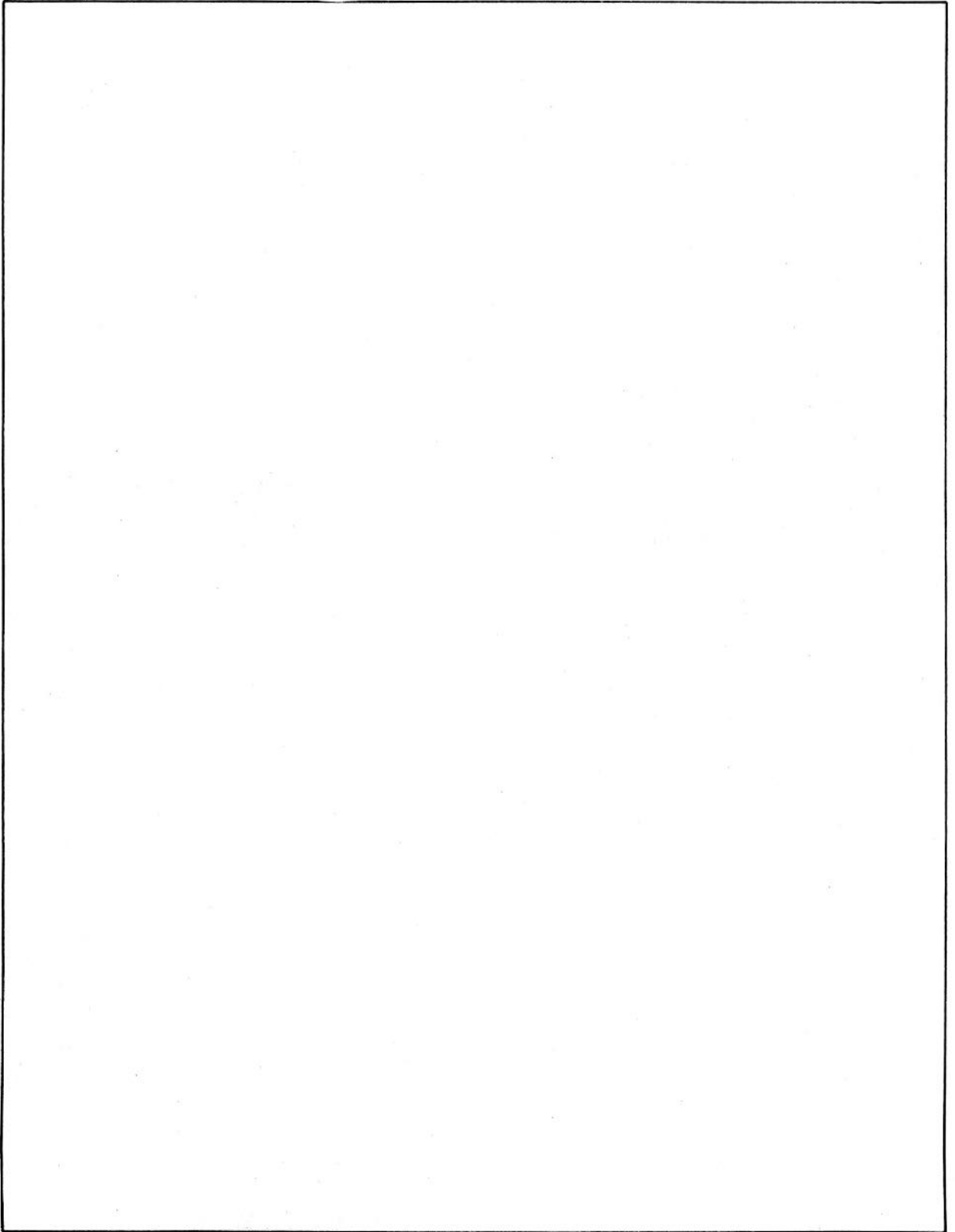
October 1961

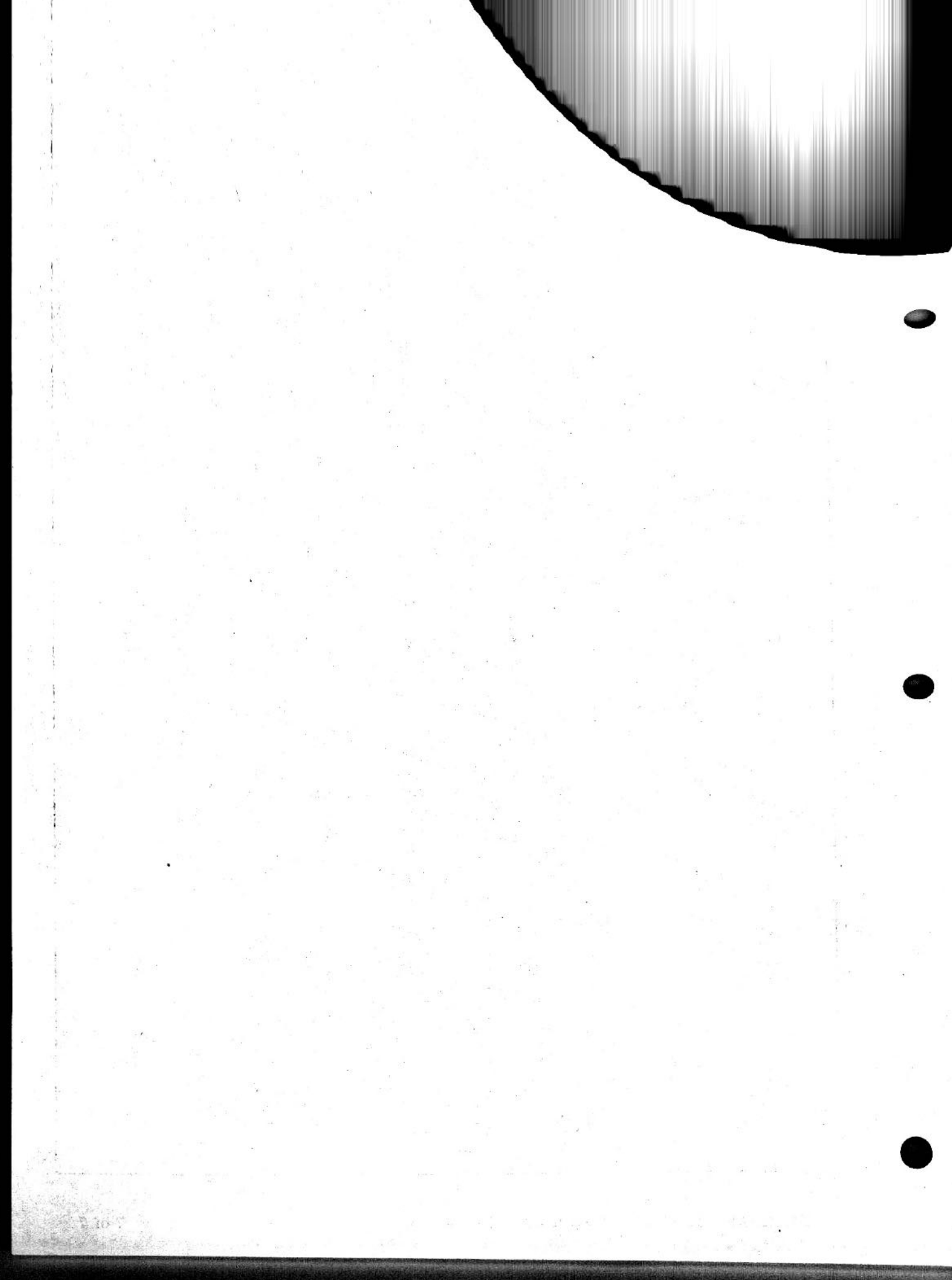
EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
MCO 2005. 23 Sup. 2A: Installation of ringing circuit	TA-182/U	Addition of ringing signal test switch located on front panel of TA-182/U.

TELEGRAPH TERMINAL GROUP AN/TCC-14

October 1961

Telegraph Terminal Group AN/TCC-14





TELEPHONE REPEATER EE-89A

October 1961

Telephone Repeater EE-89A

GENERAL DATA	MAJOR UNITS
<p>F. S. N: 5805-164-8052                      ID Number: 00169A                      Function: To extend the range of telephone lines.                      Manufacturer: Signal Corps                      Contracts: MIPR 5359-1953</p> <p>Approximate price: \$91.00                      Recommended operational checkout interval: <u>WEEKLY</u></p>	<p>(1) Telephone Repeater EE-89A</p>

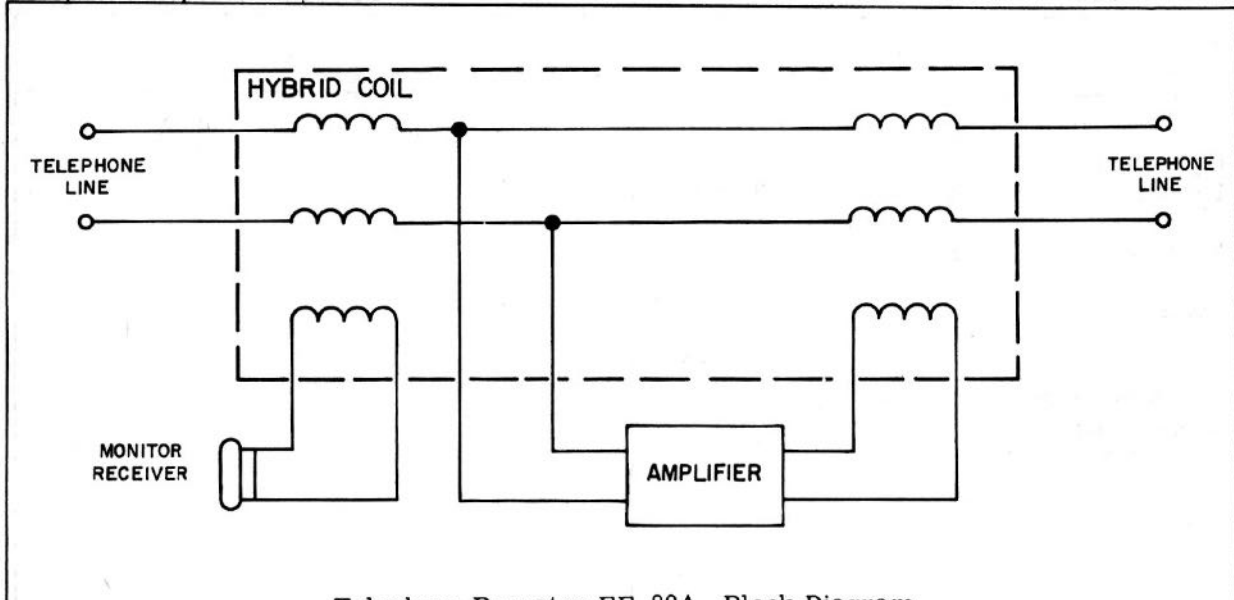


Telephone Repeater EE-89A.

TELEPHONE REPEATER EE-89A

Telephone Repeater EE-89A

October 1961



Telephone Repeater EE-89A, Block Diagram.

OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS								
<p>Use: The EE-89A is used to improve telephone transmission and to extend the talking range over wire W-110-B, WD-1/TT or other two-wire lines.</p> <p>Used with: Field wire systems, loaded or unloaded lines.</p> <p>Installation: Ground, transportable</p>	<p>Number and type of facilities: Two-wire; same pair used for transmission in both directions. Provides for simplex telegraph and 20-cycle ringing over lines using one or more of these repeaters.</p> <p>Power requirements: Self-contained battery BA-40.</p> <p>Amplifier gain: 31 db.</p> <p>Hybrid coil loss: 7 db.</p> <p>Repeater net gain: 24 db.</p> <p>Gain control: 11 steps, 2 db per step.</p> <p>20-cycle attenuation: Approximately 2 db.</p>								
SIMILAR EQUIPMENTS	PHYSICAL CHARACTERISTICS								
<p>No known similar equipments exist in this category. However, long lines communication may be improved by proper loading with coil assemblies C-114-A.</p>	<table border="1"> <thead> <tr> <th>Unit</th> <th>Overall Weight (in lbs)</th> <th>Cubic Feet</th> </tr> </thead> <tbody> <tr> <td>EE-89A</td> <td>20</td> <td>1 (crated)</td> </tr> </tbody> </table>	Unit	Overall Weight (in lbs)	Cubic Feet	EE-89A	20	1 (crated)		
Unit	Overall Weight (in lbs)	Cubic Feet							
EE-89A	20	1 (crated)							

TELEPHONE REPEATER EE-89A

Revised  
April 1962

Telephone Repeater EE-89A

PUBLICATIONS

SL-3-00169A, Repeater Telephone EE-89A,  
Nov 61.

SIG 7-8, Telephone Repeater EE-89A,  
Aug 56 and Ch 2 Apr 57.

TM 11-2006, Telephone Repeater EE-89A,  
Jul 43.

TM 11-4407, Telephone Repeater EE-89A,  
Aug 45.



TELEPHONE REPEATER EE-89A

Telephone Repeater EE-89A

October 1961

MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Performance tests**	Audio oscillator: 500, 1000, 2500 CPS	TS-379/U	TS-382( )/U	TM 11-4407, Section IV, paragraph 10.
	Decibel meter: 21, 24, 25.5 db	TS-399/U	60046* ME-30C/U	
	Attenuator	TS-402/U	Model 350B Hewlett Packard*	
	Two 600/600 ohm 10-db attenuator pads	Type 154- DEYJ Daven Co.		
	*Non T/A item			
	**Normally fourth or fifth echelon work			

TELEPHONE REPEATER EE-89A

October 1961

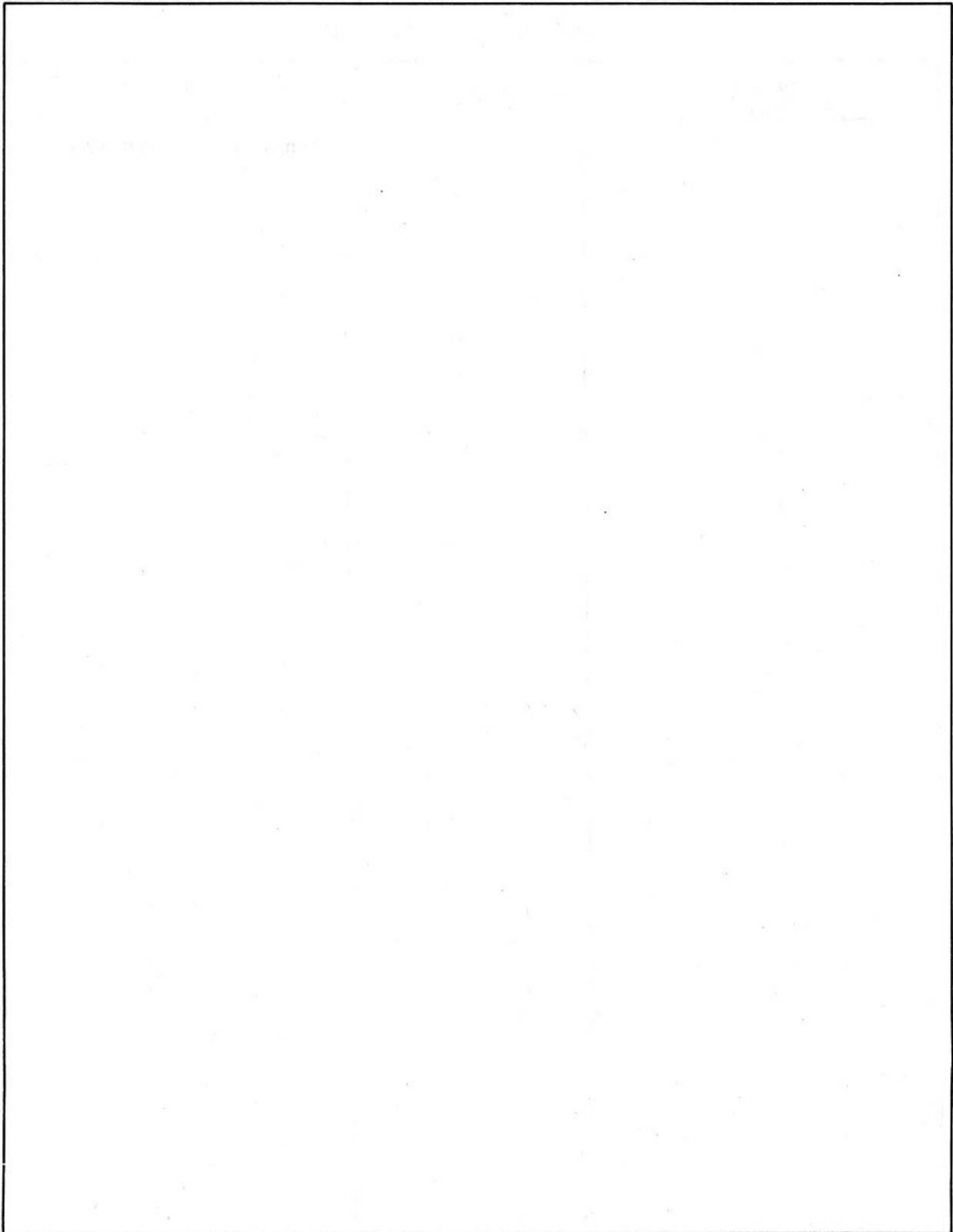
Telephone Repeater EE-89A

<b>EQUIPMENT MODIFICATIONS</b>		
<b>Authorization and Purpose</b>	<b>Equipments Affected</b>	<b>Identification</b>
		No modifications authorized.

TELEPHONE REPEATER EE-89A

Telephone Repeater EE-89A

October 1961

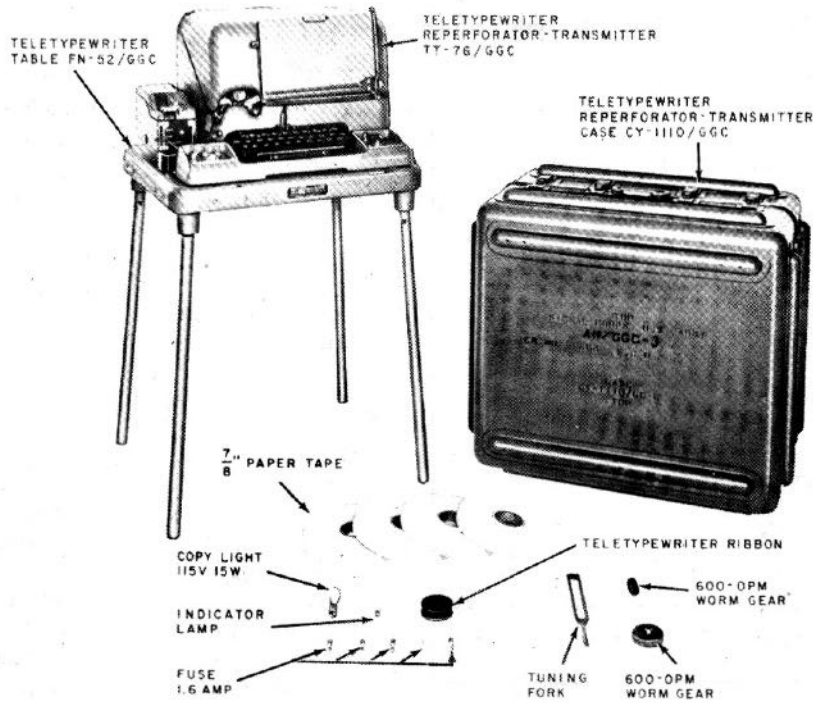


TELETYPEWRITER REPERFORATOR SET AN/GGC-3

October 1961

Teletypewriter Reperforator Set AN/GGC-3

GENERAL DATA	MAJOR UNITS
<p>F. S. N: 5815-503-3309                      ID Number: 00041A                      Function: Two-way transmission of teletype signals.                      Manufacturer: Kleinschmidt Laboratories Inc., Deerfield, Ill.                      Contracts: Order #4683-PH-52                      Order #3268-PH-52                      Approximate price: \$1700.                      Recommended operational checkout interval: <u>WEEKLY</u></p>	<p>(1) Case, teletypewriter reperforator-transmitter: magnesium; immersion-proof; JETDS CY-1110/GGC.                      (1) Table, teletypewriter: metal; JETDS FN-52/GGC.                      (1) Table, teletypewriter: magnesium; JETDS FN-108/GGC.                      (1) Teletypewriter: part of AN/GGC-3; governor-controlled series motor; friction feed; 115 volts, 60 CPS, single phase; JETDS TT-76/GGC.</p>



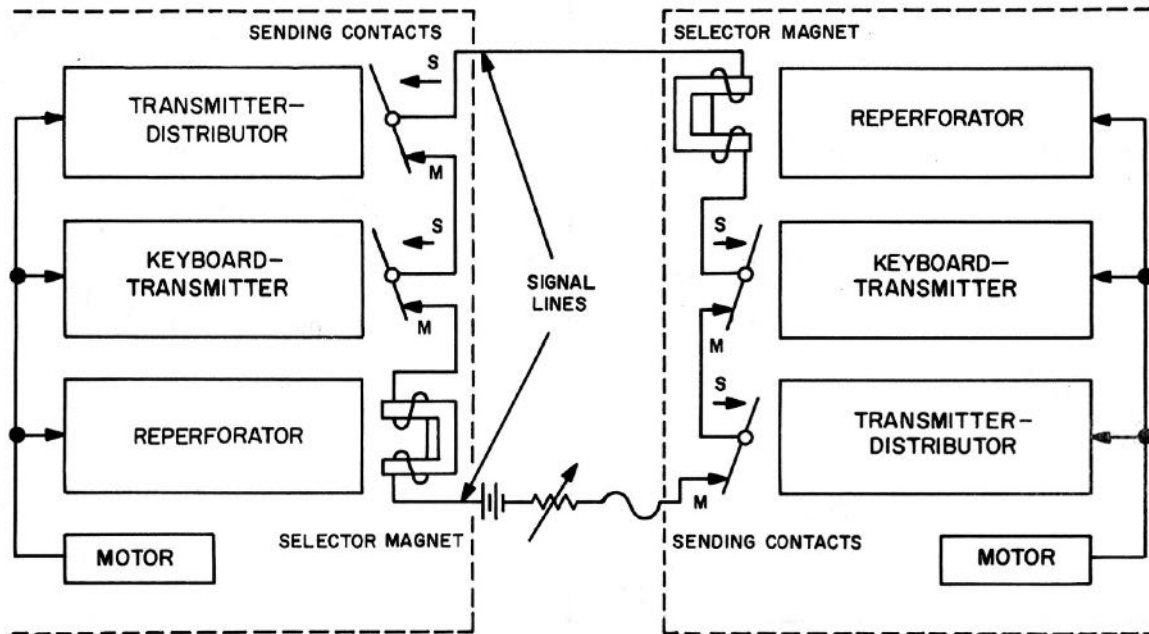
TM 2225-160

Teletypewriter Reperforator Set AN/GGC-3.

TELETYPEWRITER REPERFORATOR SET AN/GGC-3

Teletypewriter Reperforator Set AN/GGC-3

October 1961



Interconnected Teletypewriter Reperforator-Transmitters.

OPERATIONAL CHARACTERISTICS			TECHNICAL CHARACTERISTICS	
<p>Use: Tactical or fixed station military system. Provides facilities for sending either from a keyboard or a tape transmitter with the received signals printed and reperforated on 7/8-inch paper tape.</p> <p>Used with: Telegraph Terminal TH-5/TG</p> <p>Installation: Portable</p>			<p>Signal code: Fine unit, start - stop. Type of signal: Neutral or polar receiving, neutral sending.</p>	
SIMILAR EQUIPMENT			<p>Speed:</p> <p>Operations per minute: 368.1, 404, 460, 600</p> <p>Words per minute: 60, 66, 75, 100</p> <p>Line current:</p> <p>DC: 60ma</p> <p>Voice frequency: 20ma</p> <p>Polar: Not more than 30ma</p>	
<p>Teletypewriter Set AN/PGC-1</p> <p>Teletypewriter Set AN/TGC-6</p>			<p>Power required:</p> <p>Voltage: 115 or 230 VAC</p> <p>Frequency: 50 to 60 CPS (single phase)</p>	
PHYSICAL CHARACTERISTICS			<p>Consumption: Approx. 150 watts</p>	
Unit	Overall Weight (in lbs)	Cubic Feet		
AN/GGC-3	208	18.36 (crated)		

TELETYPEWRITER REPERFORATOR SET AN/GGC-3

Revised  
Jan 1962

Teletypewriter Reperforator Set AN/GGC-3

PUBLICATIONS

SL-4-00041, Teletypewriter Set AN/GGC-3A,  
May 61.  
SL-3-00041, Teletypewriter Set AN/GGC-3A,  
Jul 61.

TM 11-2225, Teletypewriter Sets  
AN/GGC-3 and AN/GGC-3A, Apr 57.  
TM 11-2225, Teletypewriter Sets  
AN/GGC-3 and AN/GGC-3A, Changes 1  
through 5, Oct 60.

TELETYPEWRITER REPERFORATOR SET AN/GGC-3

Teletypewriter Reperforator Set AN/GGC-3

October 1961

MAINTENANCE DATA

Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Final  Organizational maintenance	Distortion test set	TS-2/TG	TS-2(B)/TG	TM 11-2225, paragraphs 302 through 305.
	Distortion analyzer*	TS-383/GG		
	Tool equipment	TE-50B	TE-50A	TM 11-2225, paragraphs 29 through 161.
	Multimeter	TS-297/U	AN/PSM-4A	

\* Normally used for fourth or fifth echelon maintenance

TELETYPEWRITER REPERFORATOR SET AN/GGC-3

October 1961

Teletypewriter Reperforator Set AN/GGC-3

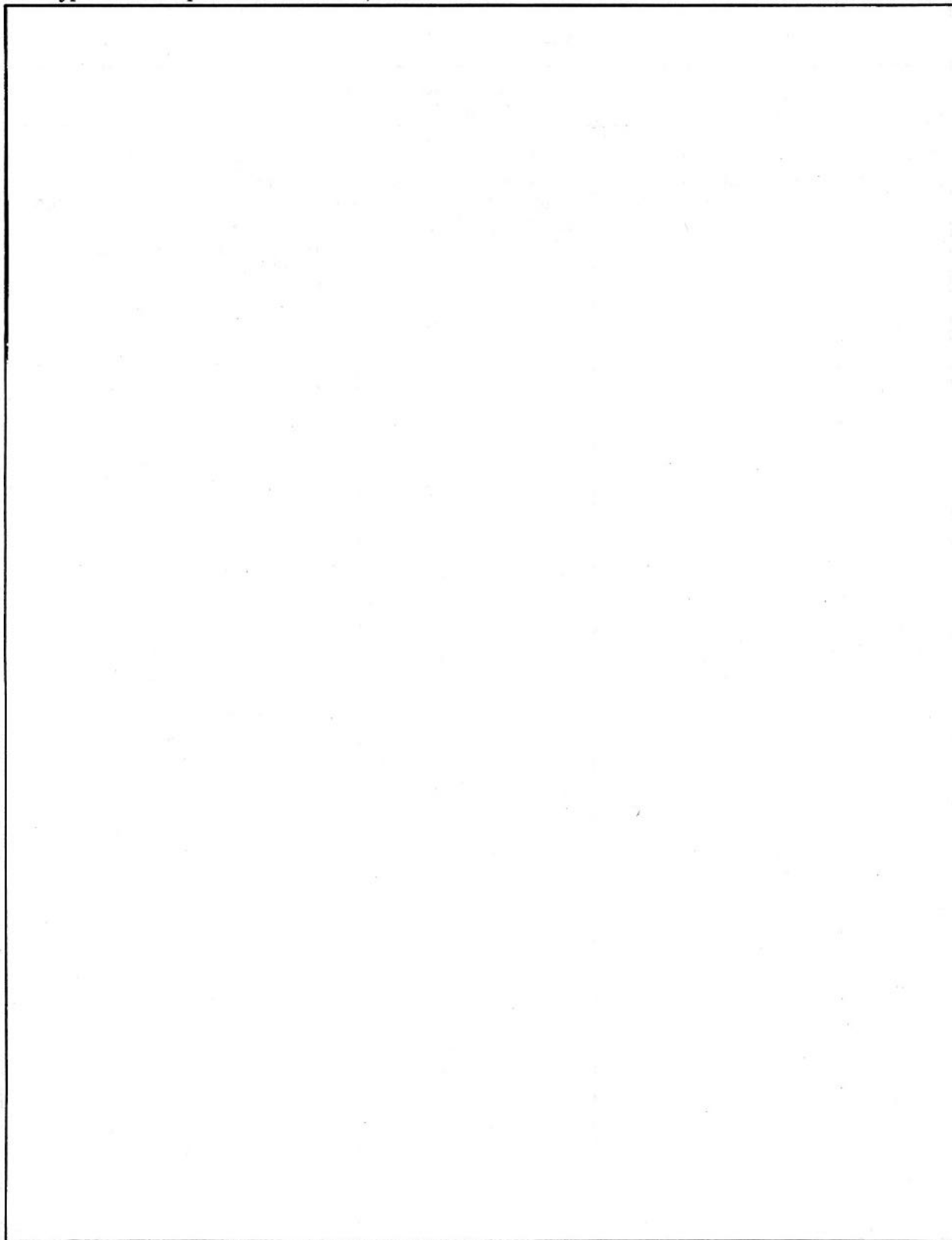
EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
MCO 2005.74 Sup. 2: Addition of end-of-line bell.	TT-76/GGC, manufactured under contract numbers 3268-PH-52 and 4683-PH-52	Addition of an end-of-line bell that rings when the operator strikes the key which causes the space indicator to reach the sixty-sixth character.



TELETYPEWRITER REPERFORATOR SET AN/GGC-3

Teletypewriter Reperforator Set AN/GGC-3

October 1961

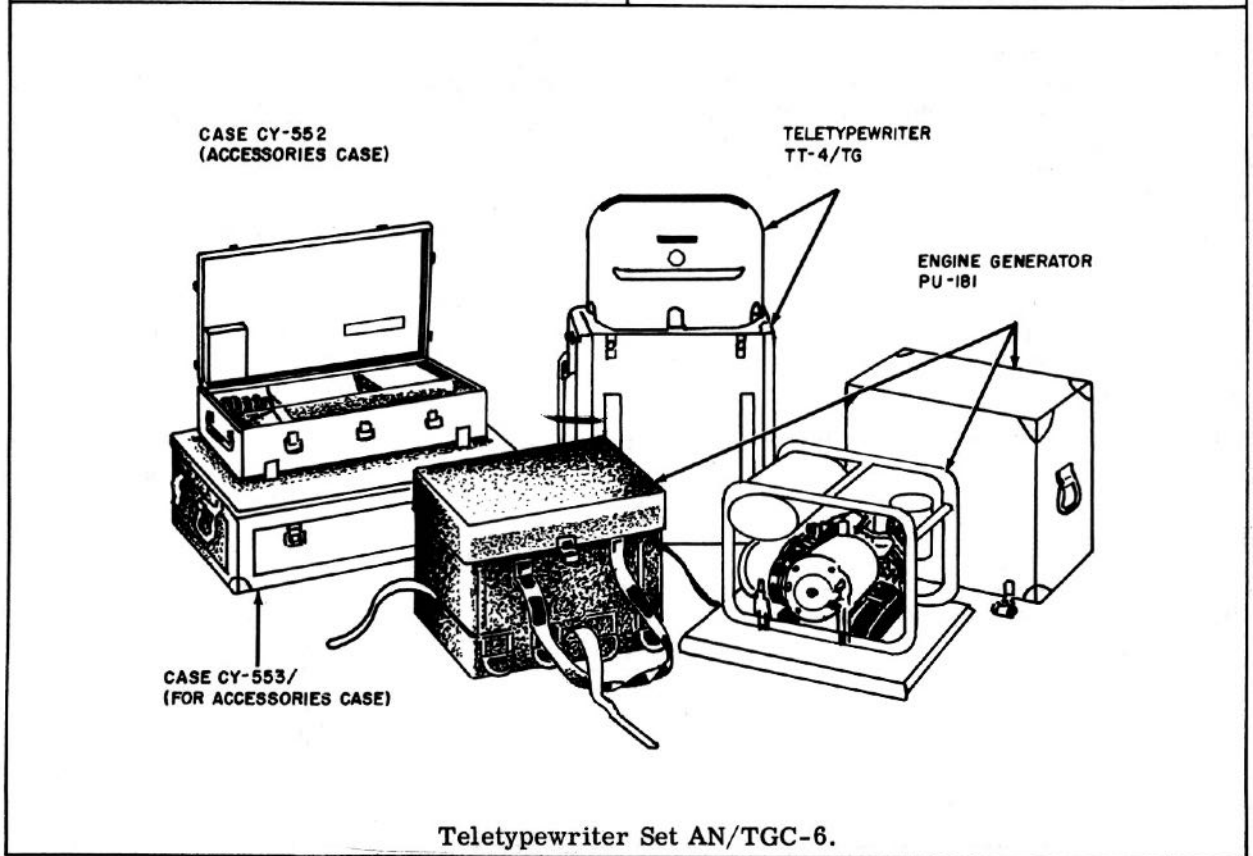


TELETYPEWRITER SET AN/TGC-6

October 1961

Teletypewriter Set AN/TGC-6

GENERAL DATA	MAJOR UNITS
<p>F. S. N: 5815-505-0294                      ID Number: 00093A                      Function: Transmit and receive teletype messages.                      Manufacturer: Kleinschmidt Mfg. Co. Deerfield, Ill.                      Contracts: R57-2180-USMC-ELCT SC-36-039-60-11104-C5-51                      Approximate price: \$3,500.00                      Recommended operational checkout interval: <u>WEEKLY</u></p>	<p>(1) Teletypewriter TT-4A/TG                      (1) Engine Generator PU-181/PGC-1                      (1) Case CY-552/PGC-1                      (contains various cables and spares)</p>





TELETYPEWRITER SET AN/TGC-6

October 1961

Teletypewriter Set AN/TGC-6

PUBLICATIONS	
<p>D/L Vol III, Teletypewriter Set AN/TGC-6, Jun 53.                      SIG M8, Teletypewriter AN/TGC-6, Jun 56.                      SIG M8 Supp, Generator GN-51, Aug 57.                      SL-4-00739A, Teletypewriter Set AN/PGC-1, Jan 61.                      TM 11-943, Engine Generators                      PU-181/PGC-1 and PU-181A/PGC-1, Apr 51, Ch 1 May 51, Ch 2 Jul 51, Ch 3 Apr 53, and Ch 4 Aug 60.                      TM 11-945, Power Unit PE-214, PE-214B, PE-214C, May 44.                      TM 11-2805-200-10P, Engine GE-12, GE-12B GE-12C, GE-12D, GE-12E, GE-12F, GE-12G, Jan 60.                      TM 11-2805-200-20P, Engine GE-12, GE-12B GE-12C, GE-12D, GE-12E, GE-12F, GE-12G, Jan 60.</p>	<p>TM 11-2805-200-35P, Engine GE-12, GE-12B GE-12C, GE-12D, GE-12E, GE-12F, GE-12G, Jan 60.                      TM 11-5815-206-12, Tele Set AN/PGC-1, TT-4A/TG, TT-4B/TG, Apr 59.                      TM 11-5815-206-35, Tele Set AN/PGC-1, TT-4A/TG, TT-4B/TG, Aug 59.                      TM 11-6115-210-20P, PE-214D Eng Generator PU-181/PGC-1, PU-181A/PGC-1, Aug 60.                      TM 11-615-210-35P, PE-214D Eng Generator PU-181/PGC-1, PU-181A/PGC-1, Sep 60.                      TM 11-6115-221-20P, Generator GN-51, Oct 60.                      TM 11-6115-221-35P, Generator GN-51, Nov 60.</p>

TELETYPEWRITER SET AN/TGC-6

Teletypewriter Set AN/TGC-6

October 1961

MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Preventive maintenance	Test Set	TS-2/TG	TS-2B/TG	TM 11-5815-206-35, paragraph 41.
	Distortion test set*	TS-383/GG	TS-383A/GG	
	Ohmmeter: 8 megohms	ZM-21/U		
	Multimeter	TS-297/U	AN/PSM-4A	
	Equipment tool set	TE-50-B TE-11		
Operator's maintenance and trouble shooting	No special equipment required			TM 11-5815-206-12, paragraph 37.
	* Fourth and fifth echelons only			
	** Part of TE-50-B			

TELETYPEWRITER SET AN/TGC-6

Revised  
April 1962

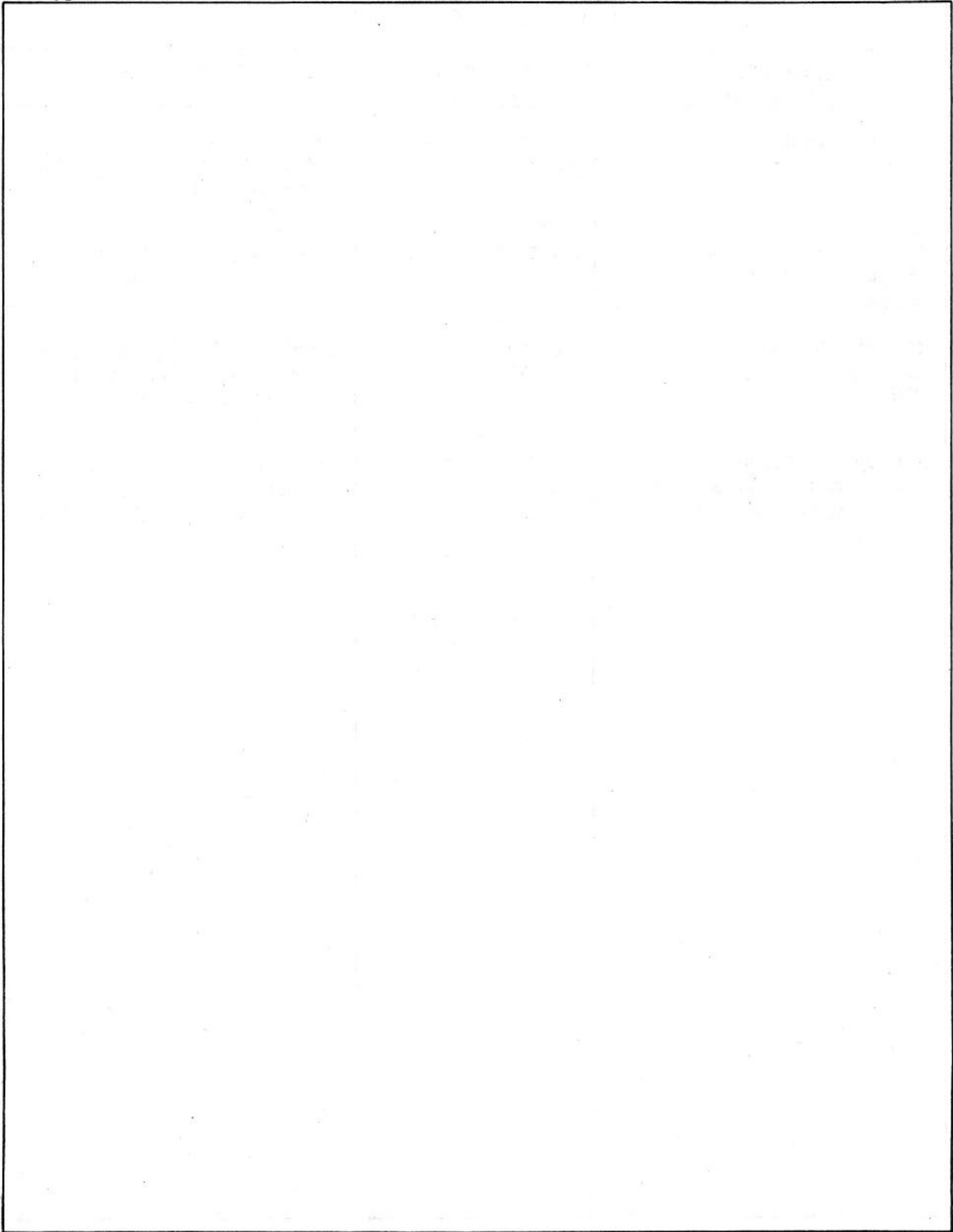
Teletypewriter Set AN/TGC-6

EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
MCO 2005.24 Sup 3: Modification of flywheel housing on PU-181.	PU-181 AN/TGC-6	Three screws securing the fly-wheel housing are replaced by three spring nuts and self-tapping screws.
MCO 2005.24 Sup 3 Ch 1: Pen and ink change to supplement 3.	AN/TGC-6	Change FSN 5815-505-0294 paragraph 7a to read 2805-651-7737.
MCO 2005.24 Sup 5: Replacement of spark plugs in PU-181.	PU-181 AN/TGC-6	Existing spark plug replaced with Champion XE-J11. Addition of new shield assembly. Titeflex B-38443.
MCO 2005.24 Sup 6: Replacement of transmitter driving gear in TT-4 and TT-4A.	TT-4, TT-4A AN/TGC-6	Replacement of existing transmitter drive gear with new wide face gears (3/16-inch wd).

TELETYPEWRITER SET AN/TGC-6

Teletypewriter Set AN/TGC-6

October 1961



MASTER MAINTENANCE REFERENCE MANUAL

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April 1962

SECTION II: RADAR		
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Indicator Group	AN/UPA-25	1-7
Interrogator Set	AN/TPX-17 and 18A	1-8
Interrogator Set	AN/TPX-20	1-6
Interrogator Set	AN/TPX-21	1-6
Radar Data Relay Set	AN/TXQ-1	1-7
Radar Set	AN/MPS-11A	1-10
Radar Set	AN/MPS-16A	1-9
Radar Set	AN/TPS-15	1-8
Radar Set	AN/TPS-21	1-6
Radar Set	AN/TPS-28	1-6



MASTER MAINTENANCE REFERENCE MANUAL

April 1962

SECTION II - Index by JETDS Nomenclature

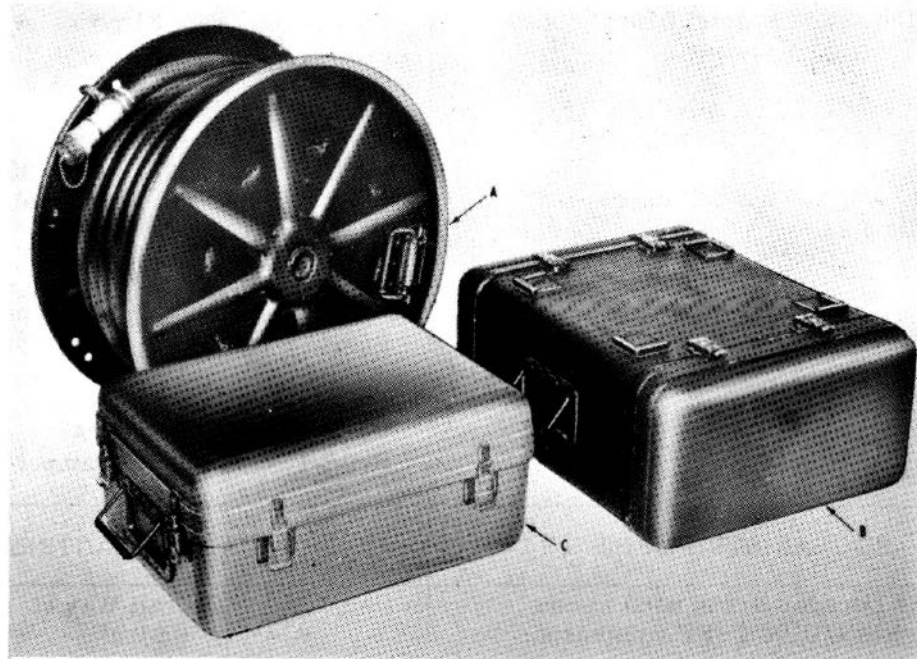
SECTION II: RADAR		
Type Number	Item Description	Pages
AN/GPA-60 and 60A	Decoder Group	1-6
AN/MPS-11A	Radar Set	1-10
AN/MPS-16A	Radar Set	1-9
AN/TPS-15	Radar Set	1-8
AN/TPS-21	Radar Set	1-6
AN/TPS-28	Radar Set	1-6
AN/TPX-17 and 18A	Interrogator Set	1-8
AN/TPX-20	Interrogator Set	1-6
AN/TPX-21	Interrogator Set	1-6
AN/TXQ-1	Radar Data Relay Set	1-7
AN/UPA-25	Indicator Group	1-7

DECODER GROUP AN/GPA-60, AN/GPA-60A

October 1961

Decoder Group AN/GPA-60, AN/GPA-60A

GENERAL DATA		MAJOR UNITS
F. S. N:	AN/GPA-60, 5840-587-0778 AN/GPA-60A, 5840-587-0779	AN/GPA-60A consists of: (1) Decoder, Video KY-196/GPA-60 (1) Control, Radar Set (master) C-1987/CPA-60A (1) Cable Assy and Reel CX-3824/GPA-60
ID Number:	00721-A - AN/GPA-60 00721-B - AN/GPA-60A	AN/GPA-60 consists of: (1) Decoder, Video KY-196/GPA-60 (1) Control, Radar Set (slave) C-1988/GPA-60 (1) Cable Assy and Reel CX-3824/GPA-60
Function:	Aircraft Identification	
Manufacturer:	Bendix Aviation Corporation	
Contracts:	NOM 67702	
Approximate price:	\$2700.	
Recommended operational checkout interval:	<u>DAILY</u>	Note: An accessories case C-4-2034/GPA-60 contains Radar Set Control, cables and equipment repair parts.

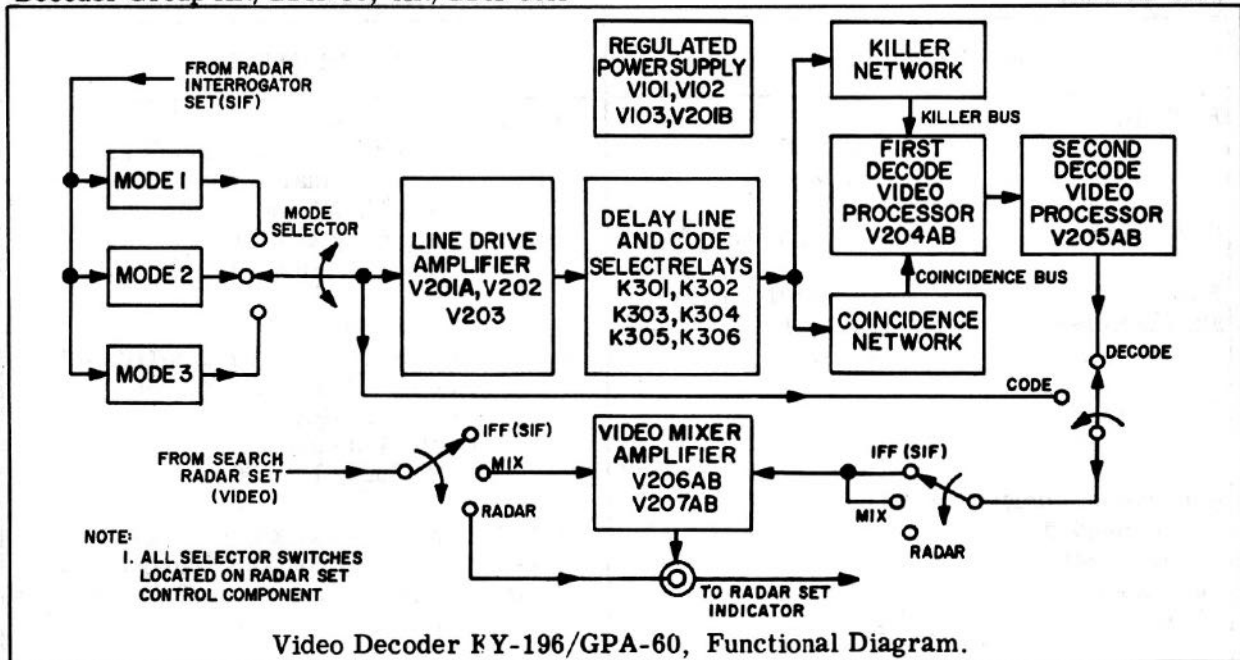


Decoder Group AN/GPA-60.

DECODER GROUP AN/GPA-60, AN/GPA-60A

Decoder Group AN/GPA-60, AN/GPA-60A

October 1961



OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS							
<p>Use: Provides a versatile system of coded aircraft identification by extending the capabilities of the Mk 10 system from 3 coded replies to 155 coded replies.</p> <p>Used with: AN/TPX-17, AN/TPX-18, AN/TPX-20, AN/TPX-21, AN/UPA-25.</p> <p>Installation: Part of mobile and ground radar equipments.</p>	<p>Modes: Mode 1, mode 2, and mode 3.</p> <p>Codes: 31 codes in mode 1. 62 codes in mode 2. 62 codes in mode 3.</p> <p>Video input: 70 ohms. Video output: 70 ohms. Output indicator: AN/UPA-25 or equivalent.</p> <p>Temperature limitation: Operating: -54° to +65° C Non-operating: -62° to 75° C</p> <p>Primary voltage: 115 volts <math>\pm</math> 10% 60/400 cycles, single phase.</p> <p>Primary volt amperes: 100 VA Primary current: 0.89 amperes.</p>							
SIMILAR EQUIPMENT	PHYSICAL CHARACTERISTICS							
<p>AN/UPA-24 Decoder Group used in conjunction with AN/UPX-1 IFF equipment.</p>	<table border="1"> <thead> <tr> <th>Unit</th> <th>Overall Weight (in lbs)</th> <th>Cubic Feet</th> </tr> </thead> <tbody> <tr> <td>AN/GPA-60, 60A</td> <td>236 (in 3 packages)</td> <td>10.78 (crated)</td> </tr> </tbody> </table>	Unit	Overall Weight (in lbs)	Cubic Feet	AN/GPA-60, 60A	236 (in 3 packages)	10.78 (crated)	
Unit	Overall Weight (in lbs)	Cubic Feet						
AN/GPA-60, 60A	236 (in 3 packages)	10.78 (crated)						

DECODER GROUP AN/GPA-60, AN/GPA-60A

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Decoder Group AN/GPA-60, AN/GPA-60A

PUBLICATIONS

NAVMC ELECT 2019, Decoder Group  
AN/GPA-60, AN/GPA-60A, Aug 57.

SIG M8, Decoder Group AN/GPA-60,  
AN/GPA-60A, Sep 57.  
SL-3-00721, Decoder Group AN/GPA-60,  
AN/GPA-60A, Jan 61.

DECODER GROUP AN/GPA-60, AN/GPA-60A

Decoder Group AN/GPA-60, AN/GPA-60A

October 1961

MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Adjustments KY-196	Multimeter: -12 VDC to +120 VDC	AN/PSM-4A	TS-352( )/U	NAVMC ELECT 2019, Section 6, pages 6-5 through 6-18, Table 6-2.
	Oscilloscope	AN/USM-137**	AN/USM-24C	
	Video code generator	AN/UPM-79	*AN/UPM-79	
	Signal generator: 100 KC to 13 MC	AN/URM-25		
	Electronic switch: Frequency 500 CPS, output amplitude 2.0 V peak-to-peak	TS-433B/U	AN/UPM-15A	
	Test set	AN/UPM-69	AN/UPM-99	
	Time mark generator	Model 900A Farnsworth		
	Signal generator: 100 CPS to 100 KC	TS-382D/U	LAJ-4	
** Test equipment part of AN/GRM-38. * Not a T/A item.				

DECODER GROUP AN/GPA-60, AN/GPA-60A

Revised  
April 1962

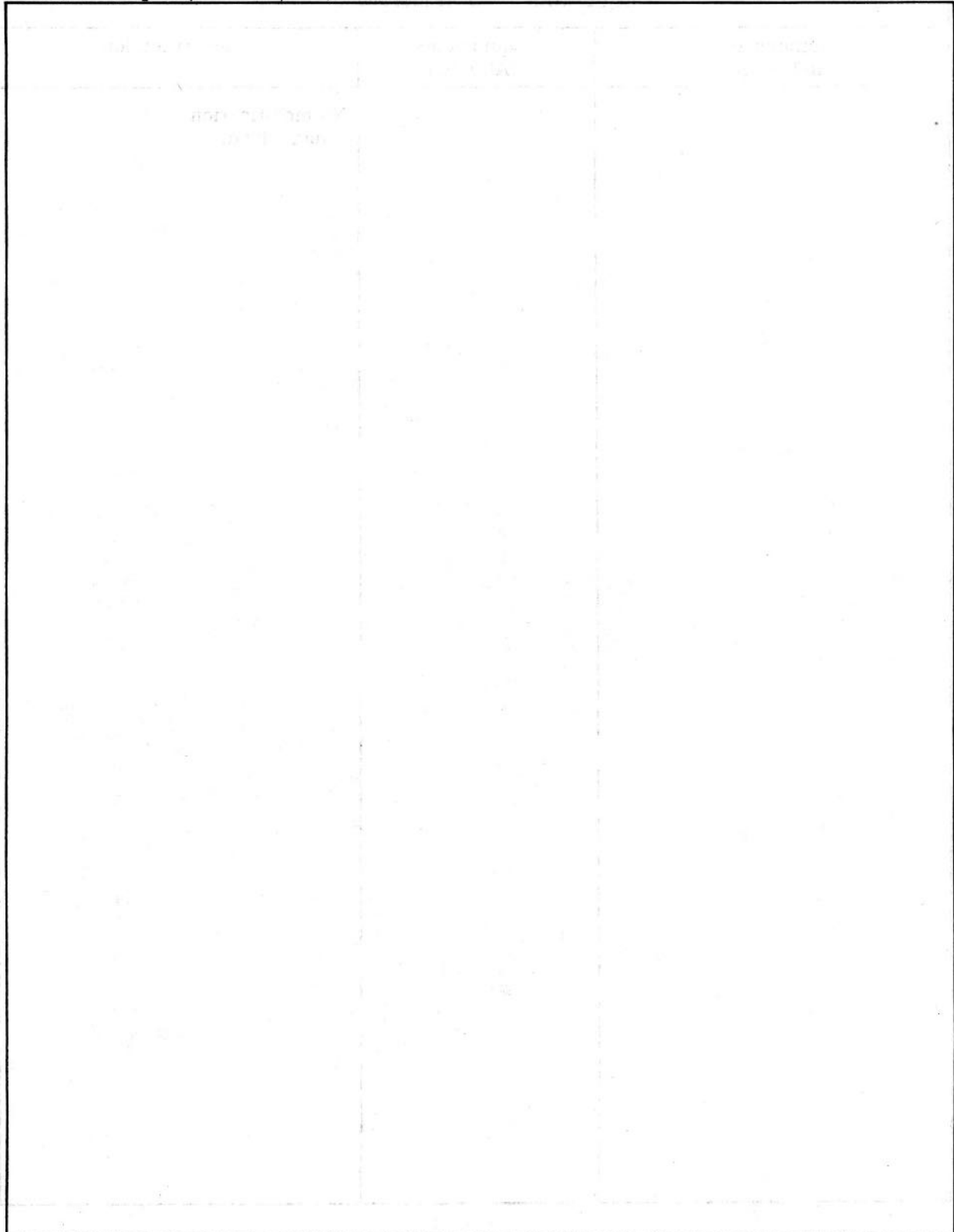
Decoder Group AN/GPA-60, AN/GPA-60A

EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
		No modification authorized.

DECODER GROUP AN/GPA-60, AN/GPA-60A

Decoder Group AN/GPA-60, AN/GPA-60A

October 1961



INDICATOR GROUP AN/UPA-25

Revised  
April 1962

Indicator Group AN/UPA-25

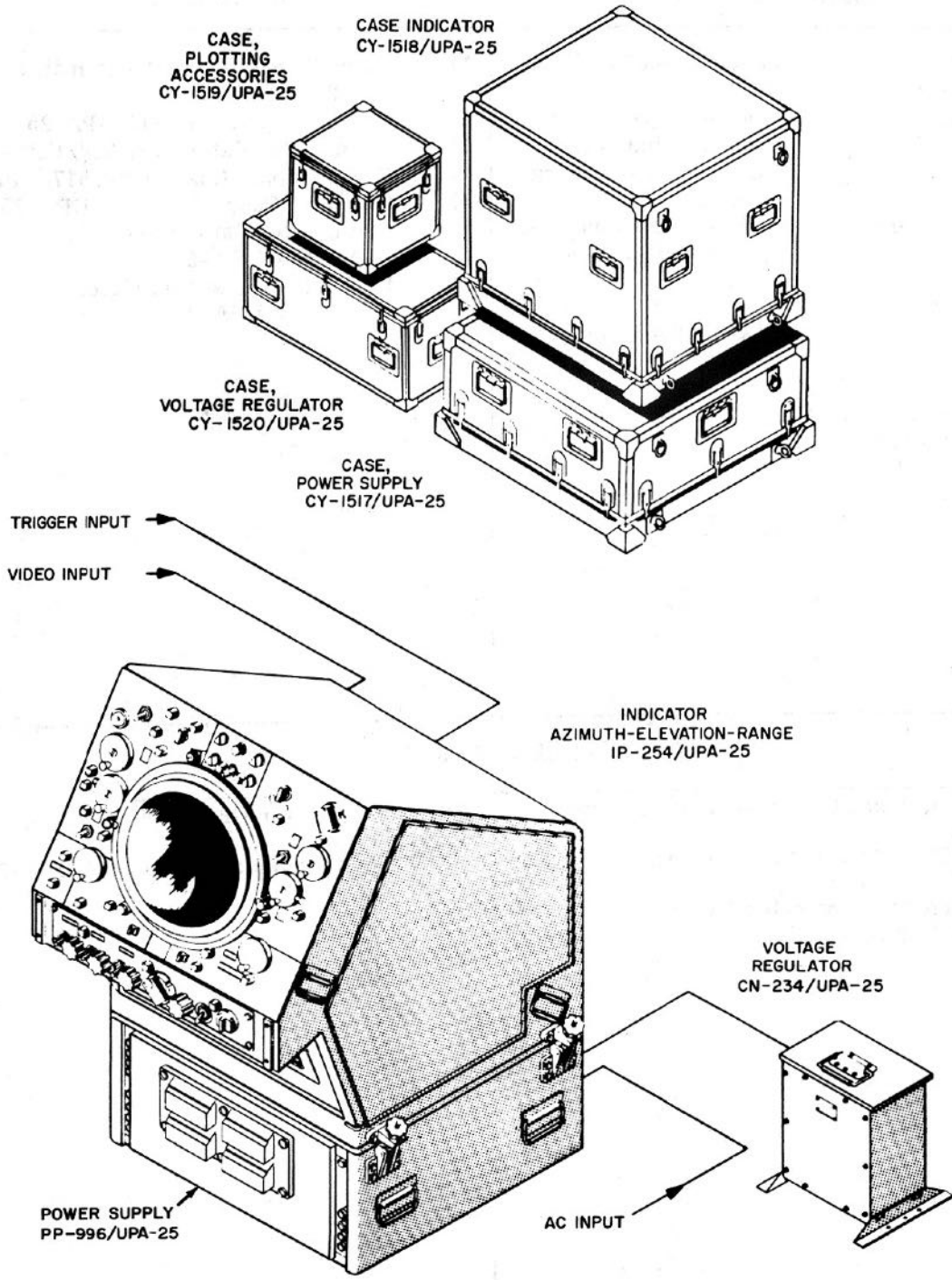
GENERAL DATA	MAJOR UNITS
<p>F. S. N: 5840-642-8893                      ID Number: 00117A                      Function: Console type of plan position indicator designed for general purpose use.                      Manufacturer: Hazeltine Electronics, Little Neck, New York                      Contracts: NObsr 52558 (1714)                      Approximate price: \$15,000.00                      Recommended operational checkout interval: <u>DAILY</u></p>	<p>(1) Azimuth-Elevation-Range Indicator, IP-254/UPA-25                      (1) Power Supply, PP-996/UPA-25                      (1) Voltage Regulator, CN-234/UPA-25                      (1) Power Supply Case, CY-1517/UPA-25                      (1) Indicator Case, CY-1518/UPA-25                      (1) Voltage Regulator Case, CY-1520/UPA-25                      (1) Plotting Accessories Case, CY-1519/UPA-25</p>
<p>PUBLICATIONS</p>	
<p>D/L Vol I, Indicator Group AN/UPA-25, Dec 56.                      NAVSHIPS 91994, Indicator Group AN/UPA-25, Jul 53.                      TI-00117A-25/1, Indicator Group AN/UPA-25A, Oct 61.</p>	<p>SIG M8, Indicator Group AN/UPA-25, Dec 53.                      SIG M8 Sup. Indicator Group AN/UPA-25, Apr 57.</p>



INDICATOR GROUP AN/UPA-25

Indicator Group AN/UPA-25

October 1961



Indicator Group AN/UPA-25.

INDICATOR GROUP AN/UPA-25

October 1961

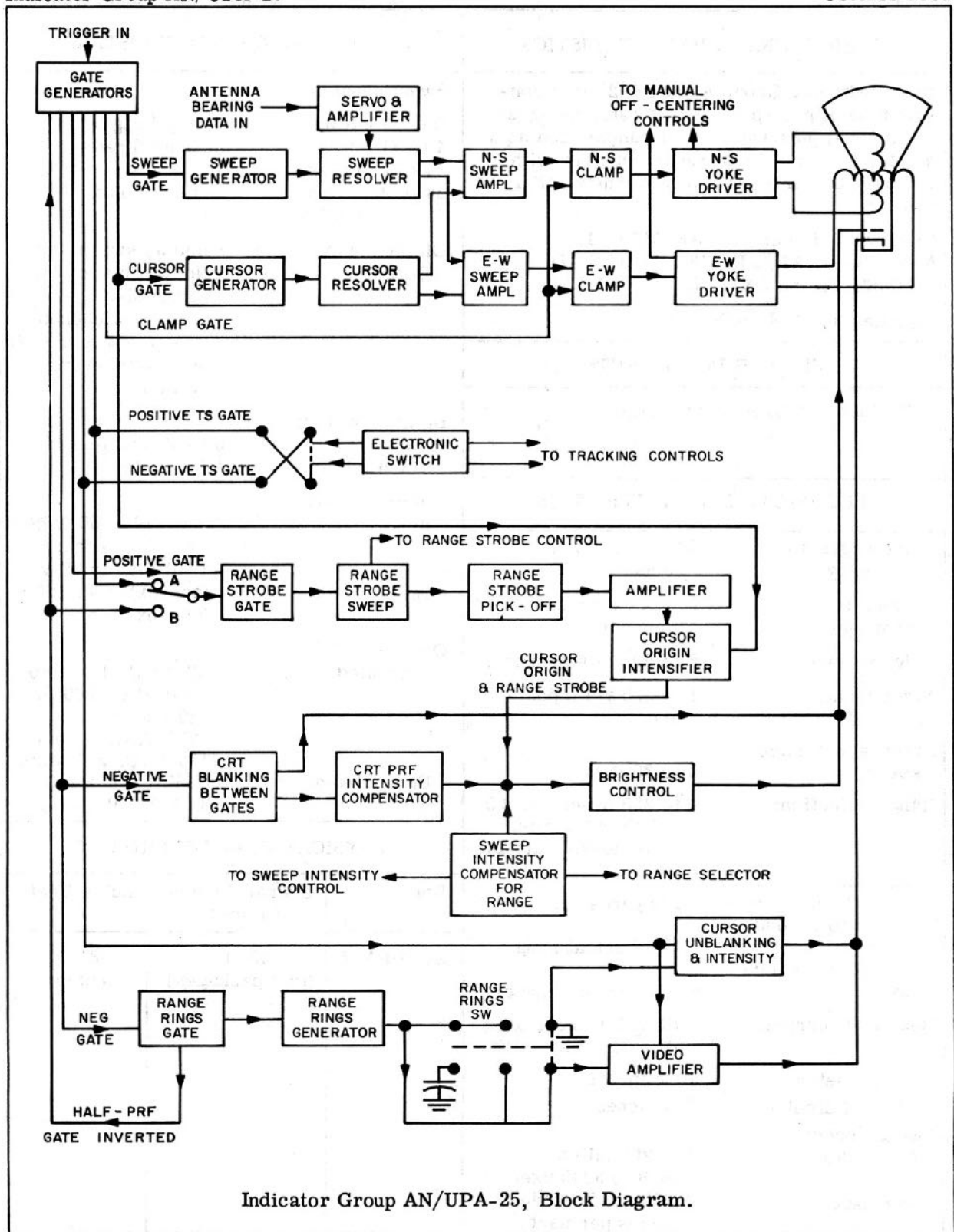
Indicator Group AN/UPA-25

OPERATIONAL CHARACTERISTICS		TECHNICAL CHARACTERISTICS																																								
<p>Use: Indicator Group AN/UPA-25 is a console type of plan-position indicator designed for general purpose use. It can be used as a master PPI or remote radar repeater with ordinary or Airborne Early Warning radar systems.</p> <p>Used with: Radar Sets AN/MPS-11, AN/TPS-15, AN/TPS-28, AN/TPS-1D, AN/MSQ-3, and AN/TXQ-1.</p> <p>Installation: Mobile/Fixed.</p>		<p>Sweep lengths:</p> <table border="0"> <tr> <td>Range Setting</td> <td>Sweep Length</td> </tr> <tr> <td>4 to 21 miles</td> <td>at least 6 radii</td> </tr> <tr> <td>21 to 28 miles</td> <td>125 miles</td> </tr> <tr> <td>28 to 42 miles</td> <td>at least 6 radii</td> </tr> <tr> <td>42 to 250 miles</td> <td>250 miles.</td> </tr> </table> <p>Off-centering: Error: Same as sweep length. Not more than 3% of actual displacement plus 2% of chosen sweep length or 0.25 mile whichever is greater.</p>			Range Setting	Sweep Length	4 to 21 miles	at least 6 radii	21 to 28 miles	125 miles	28 to 42 miles	at least 6 radii	42 to 250 miles	250 miles.																												
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INDICATOR GROUP AN/UPA-25

Indicator Group AN/UPA-25

October 1961



Indicator Group AN/UPA-25, Block Diagram.

INDICATOR GROUP AN/UPA-25

October 1961

Indicator Group AN/UPA-25

MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Indicator IP-254	Oscilloscope: 1-MC bandwidth.	OS-8( )/U	AN/USM-24C	NAVSHIPS 91994, Section 7-39, para- graph 19, Section 7-54, paragraph 29.
	Pulse generator: 0 to 2000 PPS.	AN/UPM-15	OS-5/U*	
	Multimeter: 350 VDC.	AN/PSM-4A	TS-352( )/U	
	VTVM: 0.1 to 180 volts.	TS-505/U	ME-25( )/U	
	Electronic switch	TS-433A/U	TS-583/U	
	Range calibrator: Calibrated range mark out to 220 miles.	TS-573/UP	OS-5/U*	
	Accurate AC volt- meter: 0-150 volts, accuracy .75%.	TS-505/U	G17-V-1000** ME-25( )/U	
Power Supply PP-996	Multimeter: 6.5 to 350 VDC, accuracy $\pm 1\%$ , 20,000 ohms/volt.	AN/PSM-4A	TS-352( )/U	Section 7-37 para- graph 17.
High voltage power supply	VTVM: -0.75 to -4.5 volts.	TS-505/U	ME-25( )/U	Section 7-37, para- graph 176, Section 7-38, paragraph 18.
Voltage regula- tor CN-234	AC voltmeter: 130 volts, accuracy .75%.	TS-505/U	G17-V-1000** ME-25( )/U	
	* Non T/A item.			
	** AC voltmeter with .75% accuracy not available as T/A item. AC volt- meter with an accuracy of 3% can be used.			

INDICATOR GROUP AN/UPA-25

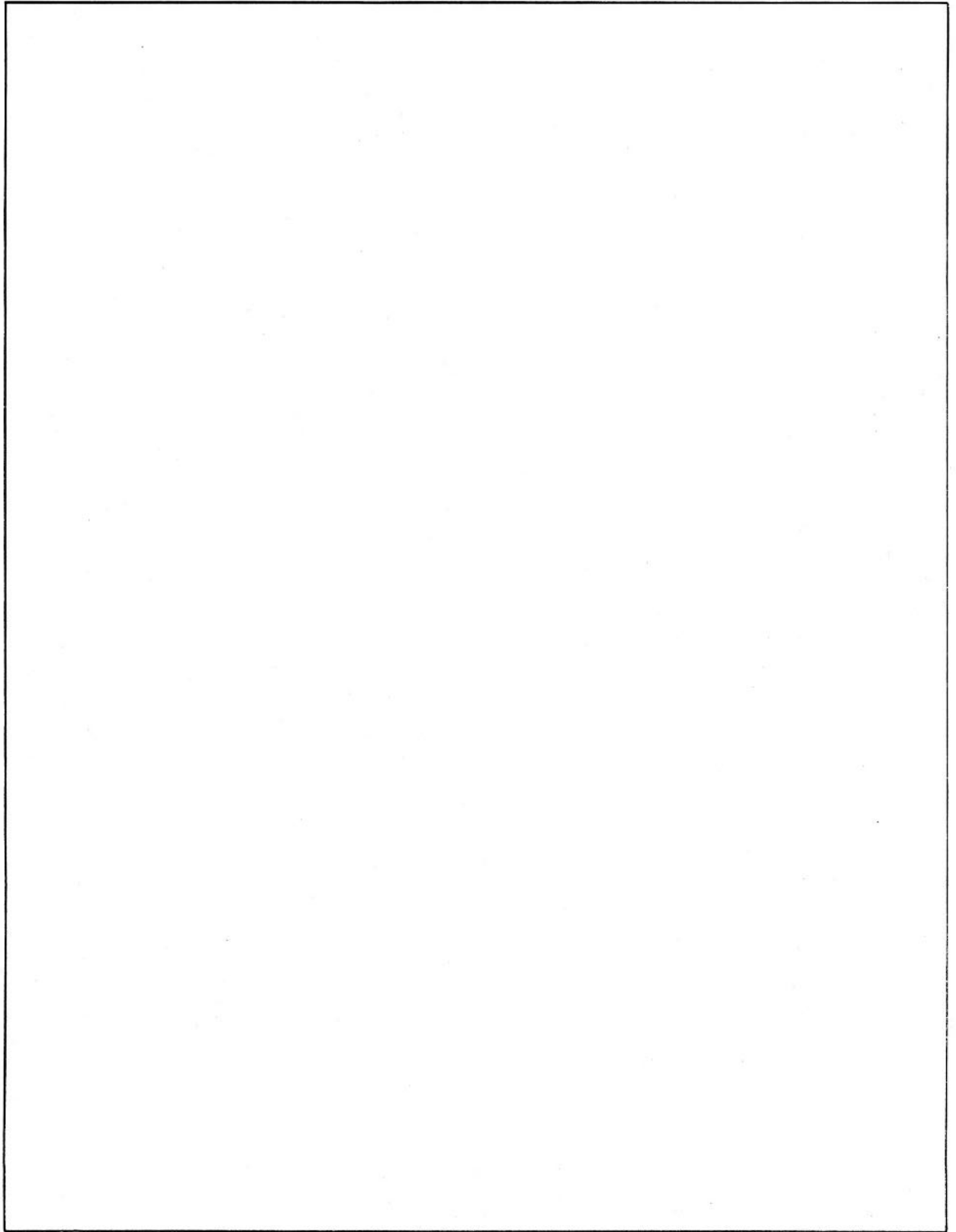
Revised  
April 1962

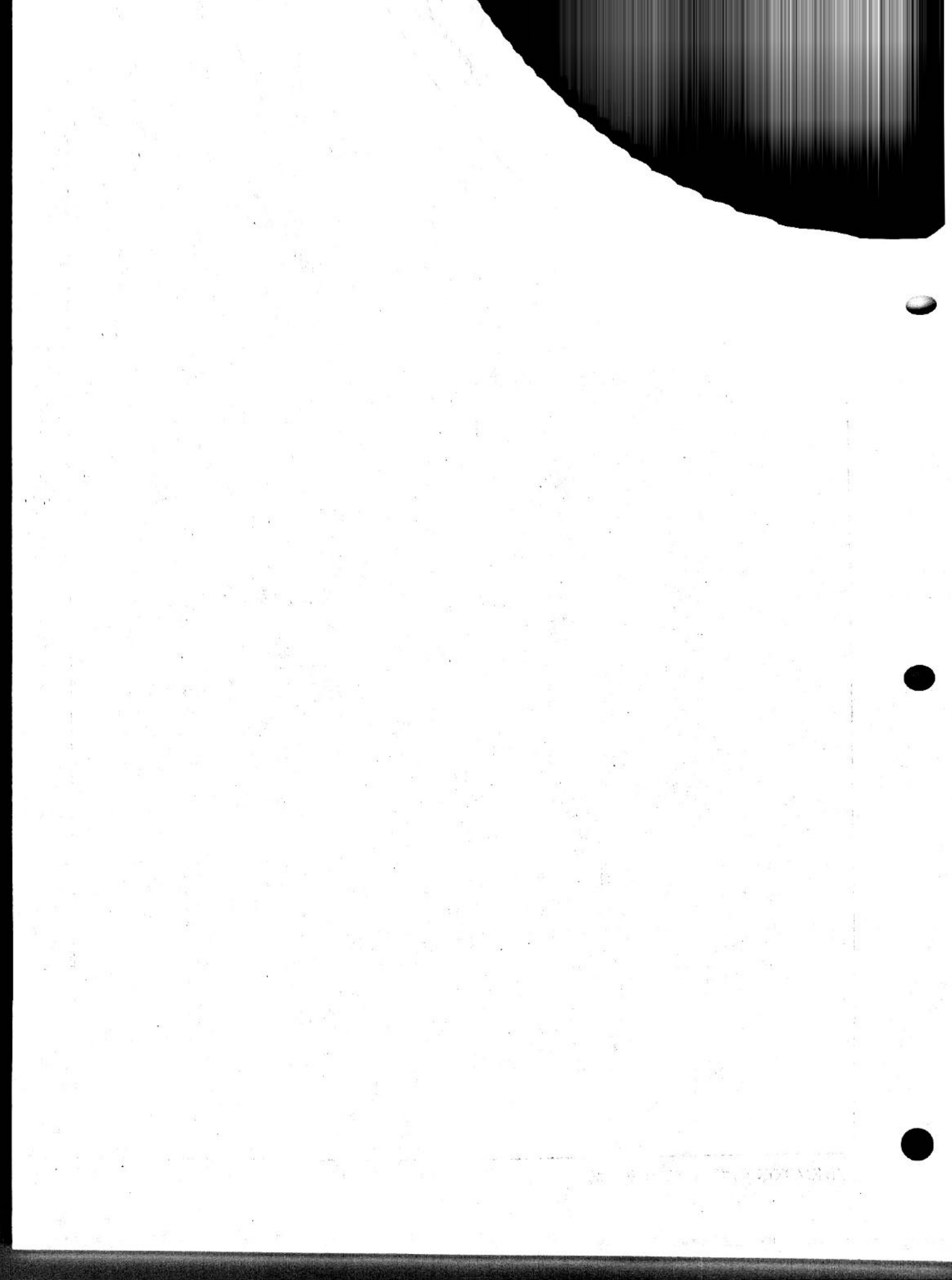
Indicator Group AN/UPA-25

EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification

October 1961

Indicator Group AN/UPA-25





INTERROGATOR SETS AN/TPX-17 AND AN/TPX-18A

October 1961

Interrogator Sets AN/TPX-17 and AN/TPX-18A

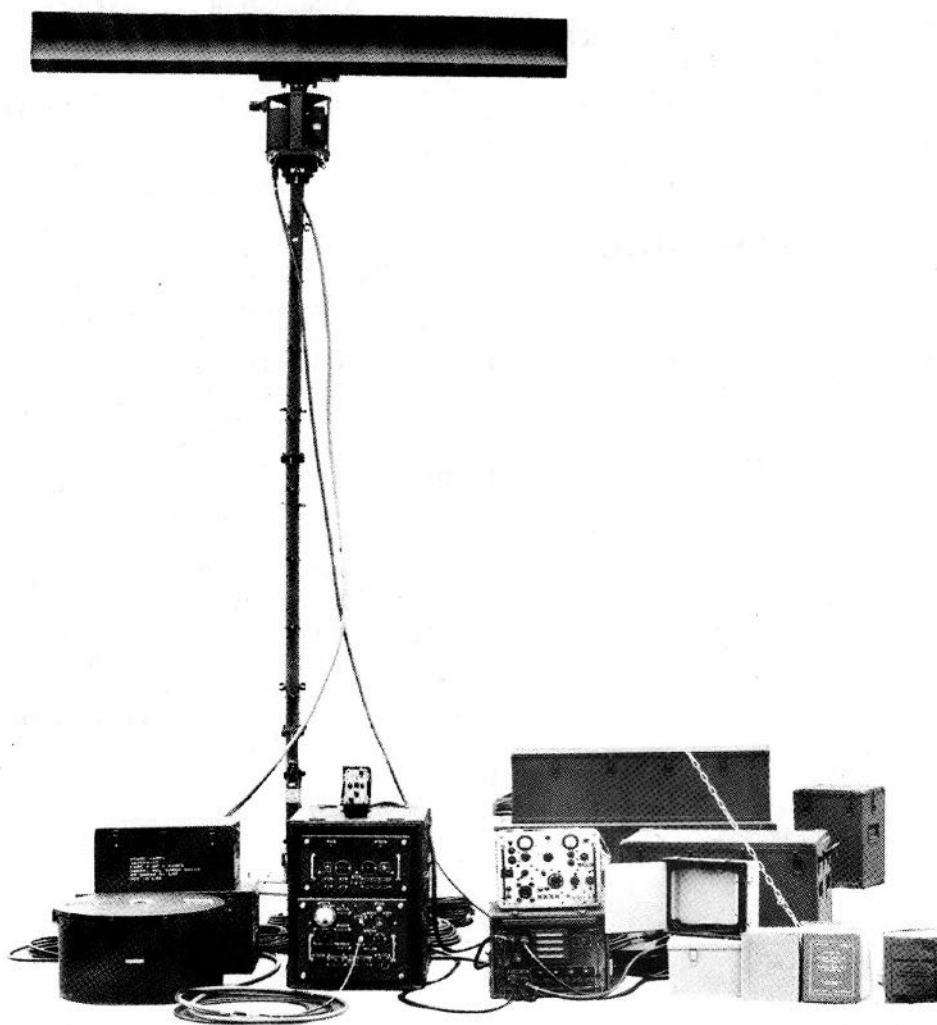
GENERAL DATA	MAJOR UNITS
<p>F. S. N: AN/TPX-17 5895-606-6286 AN/TPX-18A 5895-296-2892</p> <p>ID Number: 03316A, AN/TPX-17 03317A, AN/TPX-18A</p> <p>Function: Identification of radar targets.</p> <p>Manufacturer: General Electric Corp Syracuse, N. Y.</p> <p>Contracts: NObsr 52443(1714)</p> <p>Approximate price:\$6, 800. 00</p> <p>Recommended operational checkout interval: <u>DAILY</u></p>	<p>AN/TPX-17</p> <ul style="list-style-type: none"> <li>(1) Radar Receiver-Transmitter RT-273C/TPX</li> <li>(1) Coder-Decoder KY-98A/TPX</li> <li>(1) Video Amplifier AM-739/TPX</li> <li>(1) Interrogator Set Control C-1135A/TPX</li> <li>(1) Radar Test Set AN/UPM-6B</li> <li>(1) Antenna AT-352/UPA-22</li> <li>(1) Pedestal AB-279/GPA</li> <li>(1) Mast AB-278/GPA</li> <li>(1) Electronic Control Amplifier AM-692/GPA</li> </ul> <p>AN/TPX-18A</p> <ul style="list-style-type: none"> <li>(1) Radar Receiver-Transmitter RT-273C/TPX</li> <li>(1) Coder-Decoder KY-98A/TPX</li> <li>(3) Video Amplifier AM-739/TPX</li> <li>(1) Interrogator Set Control C-1135A/TPX</li> <li>(2) Interrogator Set Control C-1136/TPX-18</li> <li>(1) Video Distributor SA-308/UPX</li> <li>(1) Video Distributor SA-307/TPX-18</li> <li>(1) Radar Test Set AN/UPM-6B</li> <li>(1) Antenna AT-352/UPA-22</li> <li>(1) Pedestal AB-279/GPA</li> <li>(1) Mast AB-278/GPA</li> <li>(1) Electronic Control Amplifier AM-692/GPA</li> </ul>



INTERROGATOR SETS AN/TPX-17 AND AN/TPX-18A

Interrogator Sets AN/TPX-17 and AN/TPX-18A

October 1961



Interrogator Sets AN/TPS-17 and AN/TPX-18A.

INTERROGATOR SETS AN/TPX-17 AND AN/TPX-18A

October 1961

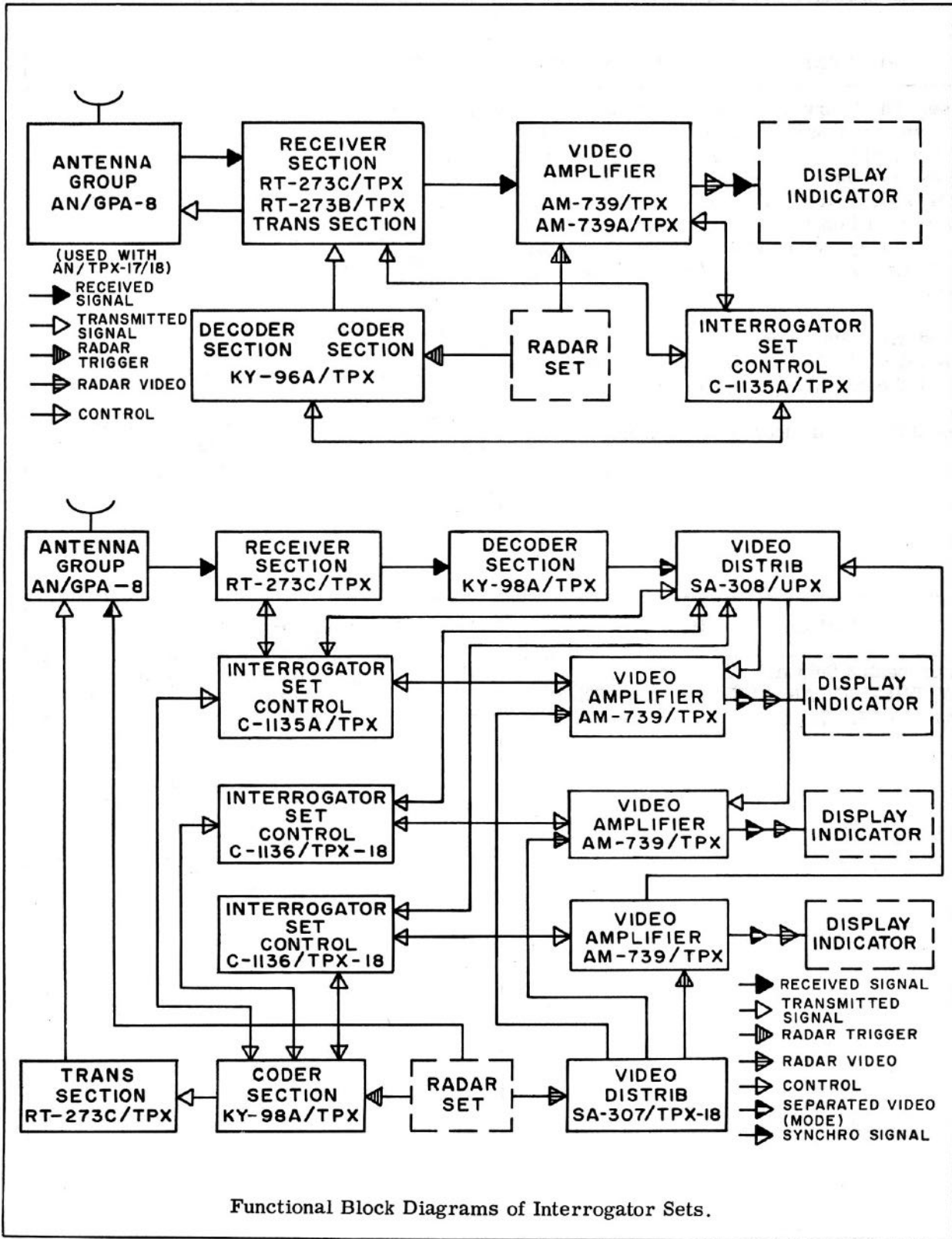
Interrogator Sets AN/TPX-17 and AN/TPX-18A

OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS		
<p>Use: The Interrogator Set is basically a system for obtaining Mk 10 IFF information for combination with radar data. The combined information is displayed on a single independent standard display indicator. The system will enable a ground operator to identify friendly ships and friendly aircraft equipped with operating Mk 10 IFF identification sets.</p> <p>Used with: Radar Sets AN/TPS-15 and AN/MPS-11, Decoder Group AN/GPA-60, and Indicator Group AN/UPA-25.</p> <p>Installation: Ground/Transportable.</p>	<p>Receiver:</p> <p>Frequency range: 1090 to 1110 MC.                      IF: 59.5 MC <math>\pm</math> 1.5 MC.                      Receiver delay: 0.5 usec.                      Frequency drift: <math>\pm</math> 2 MC maximum.</p> <p>Transmitter:</p> <p>Frequency range: 1010 to 1030 MC.                      Power output: 1000 watts peak.                      Duty cycle: 0.1%.                      Transmission rate: 50 to 410 per second.                      Frequency drift: <math>\pm</math> 2.5 MC.                      Power requirements: 115 volts, 60/400 CPS, single-phase.</p>		
SIMILAR EQUIPMENTS	PHYSICAL CHARACTERISTICS		
<p>Interrogator Sets AN/TPX-17A, AN/TPX-17C, AN/TPX-18A, AN/TPX-20, and AN/TPX-21.</p>	Unit	Overall Weight (in lbs)	Cubic Feet
	AN/TPX-17	2424 (in 11 packages)	122
	AN/TPX-18	2889 (in 13 packages)	145

# INTERROGATOR SETS AN/TPX-17 AND AN/TPX-18A

Interrogator Sets AN/TPX-17 and AN/TPX-18A

October 1961



INTERROGATOR SETS AN/TPS-17 AND AN/TPS-18A

Revised  
April 1962

Interrogator Sets AN/TPS-17 and AN/TPX-18A

PUBLICATIONS

NAVSHIPS 91467A, Radar Test Set  
AN/UPM 6A, 6B, Oct 51.  
NAVSHIPS 98506, FC-2 Radar Test Set  
AN/UPM-6B, Aug 54.  
SIG-M8, Antenna Group AN/GPA-8, Nov 52.  
SIG-M8, Interrogator Sets AN/TPX-17-18  
Sep 53, Ch 1 Jun 56.  
SIG-M8, Radar Test Set AN/UPM-6A-6B,  
Oct 55.  
SL-3-00119A, Radar Test Set AN/UPM-6B  
Oct 61.

NAVSHIPS 91785A, Interrogator Set  
AN/TPX-17, 17A, 18, Nov 53.  
RPL 01148B, Modification Kit AN/TPX-18A,  
Sep 58.  
SIG-M8, Interrogator Set AN/TPX-18A,  
Mar 55.  
SIG-M8 FC-2, Radar Test Set AN/UPM-6B  
Jul 58.

INTERROGATOR SETS AN/TPX-17 AND AN/TPX-18A

Interrogator Sets AN/TPX-17 and AN/TPX-18A

October 1961

MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Operator's maintenance	No special tools or equipment required			NAVSHIPS 91785(A), paragraphs 5-1 and 5-2.
Corrective maintenance	Multimeter: 0.20 to 500 VDC and 6.3 to 115 VAC	AN/PSM-4A	TS-352( )/U	NAVSHIPS 91785(A), paragraphs 7-1 through 7-16.
	Test set	AN/UPM-6B	AN/UPM-4*	
	Oscilloscope	AN/USM-24C	AN/USM-32	
	VTVM: 0.5 to 15 VDC	TS-505/U	ME-25( )/U	
	Signal generator: 48 to 73 MC	TS-497/URR	AN/URM-26( )	
	Pulse generator	AN/UPM-1B	AN/UPM-15A	
	* Non T/A item			

INTERROGATOR SETS AN/TPX-17 AND AN/TPX-18A

October 1961

Interrogator Sets AN/TPX-17 and AN/TPX-18A

EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
MCO 2005.55 Sup 3: Installation of field changes, numbers 1 and 4.	AN/TPX-17 AN/TPX-18	Refer to NAVSHIPS 98968.
MCO 2005.55 Sup 3 Ch 1: Field changes numbers 1 and 4.	AN/TPX-17 AN/TPX-18	Pen and ink change to Sup 3; change stock number 5895-608-1459 to 5840-543-1340.
MCO 2005.55 Sup 2: Increase reliability under abnormal voltage inputs.	Receiver-Transmitter RT-273/TPX.	Wire tag or cable marker on equipment power cord with notation referencing MCO 2005.55 Sup 2.

INTERROGATOR SETS AN/TPX-17 AND AN/TPX-18A

Interrogator Sets AN/TPX-17 and AN/TPX-18A

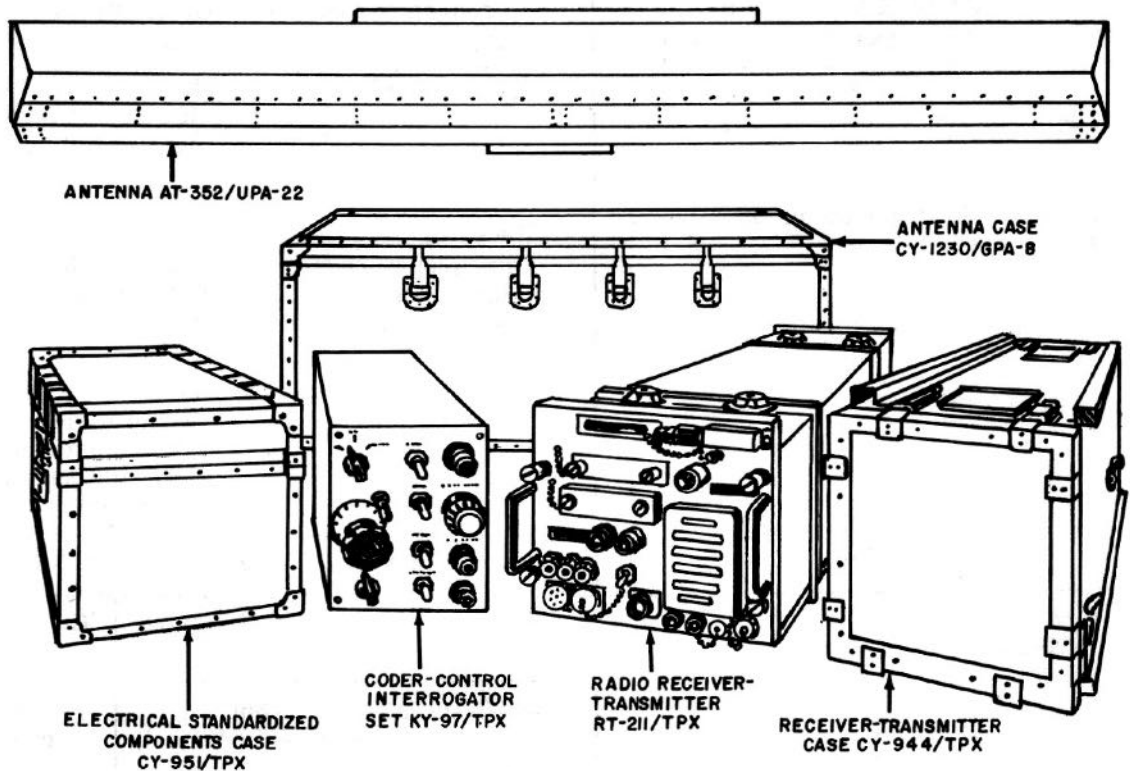
October 1961

# INTERROGATOR SET AN/TPX-20

October 1961

Interrogator Set AN/TPX-20

GENERAL DATA	MAJOR UNITS
<p>F. S. N: 5895-355-8449                      ID Number: 00102A                      Function: To determine the identity of targets detected by radar.                      Manufacturer: Raytheon Company                      Lexington, Mass.                      Contracts: DA-36-039-SC-5656</p> <p>Approximate price: \$6,500.00                      Recommended operational checkout interval: <u>DAILY</u></p>	<p>(1) Radio Receiver Transmitter RT-211/TPX                      (1) Coder-Control Interrogator Set KY-97/TPX                      (1) Antenna AT-352/UPA-22</p>



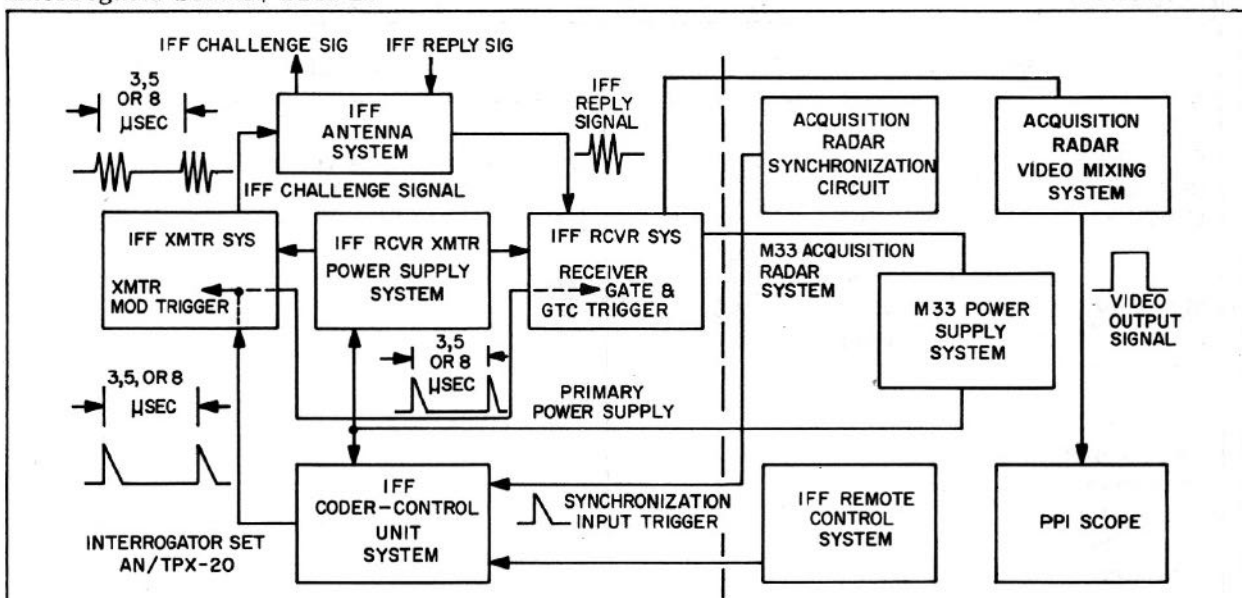
Interrogator Set AN/TPX-20.



INTERROGATOR SET AN/TPX-20

Interrogator Set AN/TPX-20

October 1961



Interrogator Set AN/TPX-20, Systems Block Diagram.

OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS		
<p>Use: Interrogator Set AN/TPX-20 is a light-weight MARK X Interrogator-Responder System operated in conjunction with the Fire Control System M33.</p> <p>Used with: M-33 anti-aircraft Fire Control System.</p> <p>Installation: Transportable, usually trailer mounted.</p>	<p>Transmitter:</p> <p>Frequency range: 990 to 1040 mc</p> <p>Type modulation: Pulse</p> <p>Power input: 105, 117, or 125 volts 400 CPS, single-phase, 400 watts.</p> <p>RF power output: 1.5 kw minimum.</p> <p>Receiver:</p> <p>Frequency range: 1080 to 1130 mc</p> <p>Sensitivity: 76 db below 1 volt</p> <p>Overall bandwidth: 8 to 11 mc</p> <p>Coder-Control unit:</p> <p>Power input: 105, 117, or 125 volts 30 watts, 60 or 400 CPS, single-phase.</p> <p>P. R. F: Up to 4100 pulses per second input.</p>		
SIMILAR EQUIPMENTS	PHYSICAL CHARACTERISTICS		
<p>AN/TPX-17, AN/TPX-18, and AN/TPX-18A.</p>	<p>Unit</p>	<p>Overall Weight (in lbs)</p>	<p>Cubic Feet</p>
	<p>AN/TPX-20</p>	<p>366 (in 4 packages)</p>	<p>23 (crated)</p>

INTERROGATOR SET AN/TPX-20

October 1961

Interrogator Set AN/TPX-20

PUBLICATIONS

SL-3-00102A, Interrogator Set AN/TPX-20  
May 60.  
SL-4-02635, Radio Receiver-Transmitter  
RT-211/TPX, RT-211A/TPX, Mar 61.  
SL-4-02636A, Coder-Control Interrogator  
KY-97/TPX, Dec 60.  
TM 11-1166, Interrogator Set AN/TPX-23,  
Apr 55.  
TM 11-1191, Interrogator Set AN/TPX-20,  
Aug 54.  
TM 11-1193, Interrogator Set AN/TPX-22,  
May 55.

TM 11-5895-202-10P, Subassembly  
MX-1376A/UPX-6, Dec 59.  
TM 11-5895-209-35P, Interrogator Set  
AN/TPX-20, AN/TPX-20A, Oct 59.  
TM 11-5895-211-15, Antenna AT-352/UPA  
-22, AT-353A/UPA-23, Feb 59.  
TM 11-5895-211-15P, Antenna AT-352/UP,  
AT-353/UP, AT-353A/UP, Apr 60.  
TM 11-5895-245-10P, Radio Receiver-  
Transmitter RT-211/TPX-A, Oct 59.

INTERROGATOR SET AN/TPX-20

Interrogator Set AN/TPX-20

October 1961

MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Organizational maintenance	Alignment tool Alignment tool	TL-207 TL-597/U		TM 11-1191, paragraph 51.
Alignment and adjustment procedures	Radar test set	AN/UPM-6 ( )*		TM 11-1191, paragraphs 211 through 236.
	Multimeter: -15 to 70 volts, 0 - 2.5 MA	TS-352 ( )/U	AN/PSM-4A	
	Radar test set	AN/UPM-4 ( )*	AN/UPM-6 ( )	
	Oscilloscope	TS-239A/UP	AN/USM-24 ( )	
	Signal generator: 55 to 65 MC	TS-452 ( )/U		
	Signal generator: 55.5 to 64.25 MC	TS-497 ( )/URR	AN/URM-26 ( )	
	VTVM: 1.5 to 7 volts	TS-505/U	ME-25 ( )/U	
	Multimeter: .01 to .012 volts	ME-6 ( )/U	ME-30 ( )/U	
	* 4th echelon			

October 1961

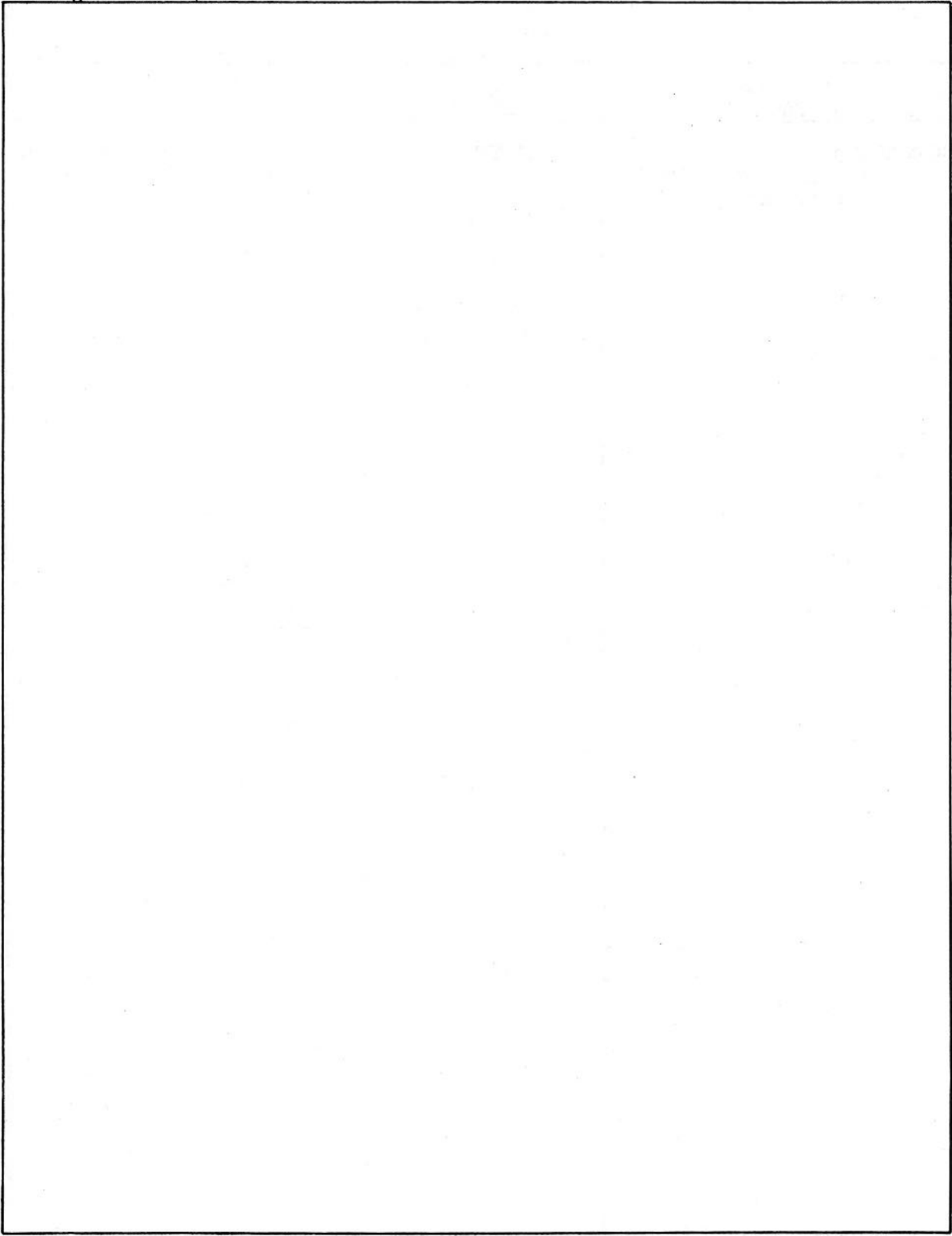
Interrogator Set AN/TPX-20

EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
2005.63 Sup 2: Prevention of damage to RT-211 while in transit and operation.	RT-211/TPX	Panel mounting screws wired with safety wire.

INTERROGATOR SET AN/TPX-20

Interrogator Set AN/TPX-20

October 1961

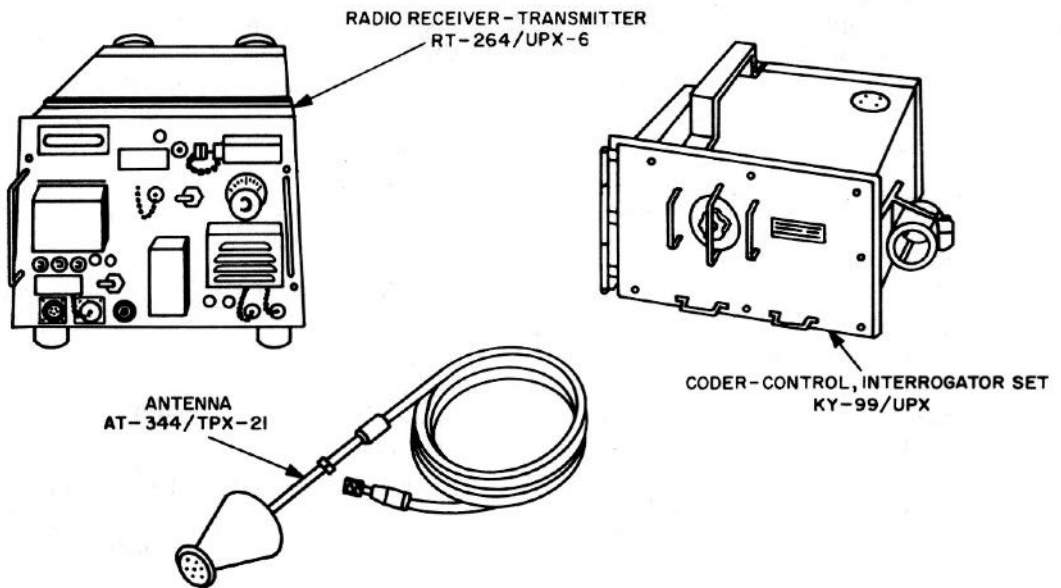


# INTERROGATOR SET AN/TPX-21

October 1961

Interrogator Set AN/TPX-21

GENERAL DATA	MAJOR UNITS
<p>F. S. N: 5895-395-8910                      ID Number: 00103A                      Function: Aircraft identification</p> <p>Manufacturer: Raytheon Company                      Lexington, Mass.</p> <p>Contracts: DA-36-039-SC-36551</p> <p>Approximate price: \$6,660.00                      Recommended operational checkout interval: <u>DAILY</u></p>	<p>(1) Radio Receiver-Transmitter RT-264/UPX-6                      (1) Coder-Control Interrogator Set KY-99/UPX                      (1) Antenna AT-344/TPX-21                      (1) Receiver-Transmitter Case CY-1324/UPX-6                      (1) Electrical Standardized Components Case CY-951/TPX</p>

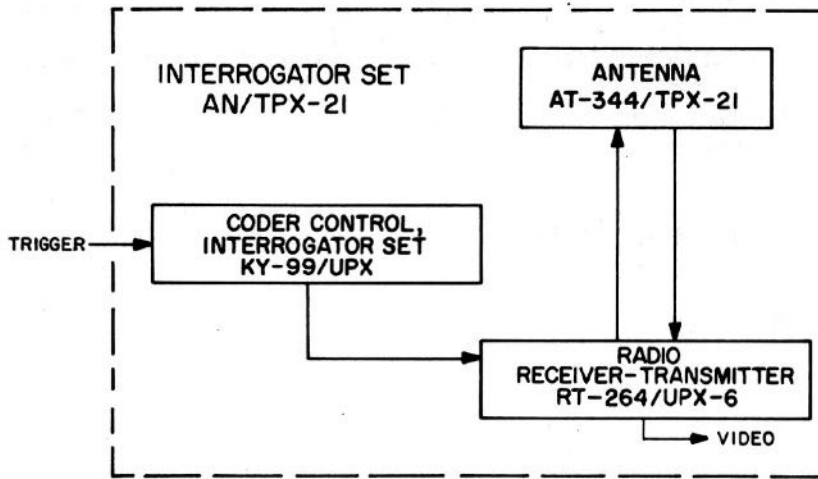


Interrogator Set AN/TPX-21.

# INTERROGATOR SET AN/TPX-21

Interrogator Set AN/TPX-21

October 1961



Interrogator Set AN/TPX-21, Simplified Functional Diagram.

OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS						
<p>Use: When installed in conjunction with the associated radar equipment, the interrogator set constitutes an IFF system capable of transmitting coded interrogation signals to any aircraft detected within the radar operating range.</p> <p>Used with: Fire Control System M-38</p> <p>Installation: Ground, Fixed.</p>	<p><b>Transmitter:</b>            Frequency range: 990 to 1040 MC.            Modulation type: Pulse.            RF pulse duration: 0.7 to 1.2 micro-seconds.            Peak power output: 1.5 KW minimum.</p> <p><b>Receiver:</b>            Frequency range: 1080 to 1130 MC.            Sensitivity: 80 db below 1 volt.</p> <p><b>Overall bandwidth:</b> Between 8 and 11 MC.  <b>IF frequency:</b> 60 MC.</p> <p><b>Coder Control Interrogator:</b>            Pulse repetition frequency: 3800.</p> <p><b>Power requirements:</b> 105, 117 or 125 volts, 60 CPS, single phase, 250 watts.</p>						
<b>SIMILAR EQUIPMENTS</b>							
Interrogator Sets AN/TPX-17, AN/TPX-18, AN/TPX-20, and AN/TPX-28.							
<b>PHYSICAL CHARACTERISTICS</b>							
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 20%;">Unit</th> <th style="width: 40%;">Overall Weight (in lbs)</th> <th style="width: 40%;">Cubic Feet</th> </tr> </thead> <tbody> <tr> <td>AN/TPX-21</td> <td style="text-align: center;">340 (in 3 packages)</td> <td style="text-align: center;">15 (crated)</td> </tr> </tbody> </table>	Unit	Overall Weight (in lbs)	Cubic Feet	AN/TPX-21	340 (in 3 packages)	15 (crated)	
Unit	Overall Weight (in lbs)	Cubic Feet					
AN/TPX-21	340 (in 3 packages)	15 (crated)					

INTERROGATOR SET AN/TPX-21

Revised  
January 1962

Interrogator Set AN/TPX-21

PUBLICATIONS

D/L VOL I, Interrogator Set AN/TPX-21,  
Jun 54.

SIG 7-8, Interrogator Set AN/TPX-21, Aug 58,  
and Ch 1 Dec 59.

SIG 7-8, Receiver Trans Radio  
RT-264/UPX-6, Oct 58.

TM 11-1192, Interrogator Set AN/TPX-21  
Jan 55.

TM 11-5895-202-10P, Subassembly  
MX-1376A/UPX-6, Dec 59.

TM 11-5895-202-20P, Subassembly  
MX-1376A/UPX-6, Nov 59.

TM 11-5895-202-35P, Subassembly  
MX-1376A/UPX-6, Dec 59.

SL-4-02635, Receiver Trans Radio  
RT-211, A/TPX, Mar 61.



INTERROGATOR SET AN/TPX-21

Interrogator Set AN/TPX-21

October 1961

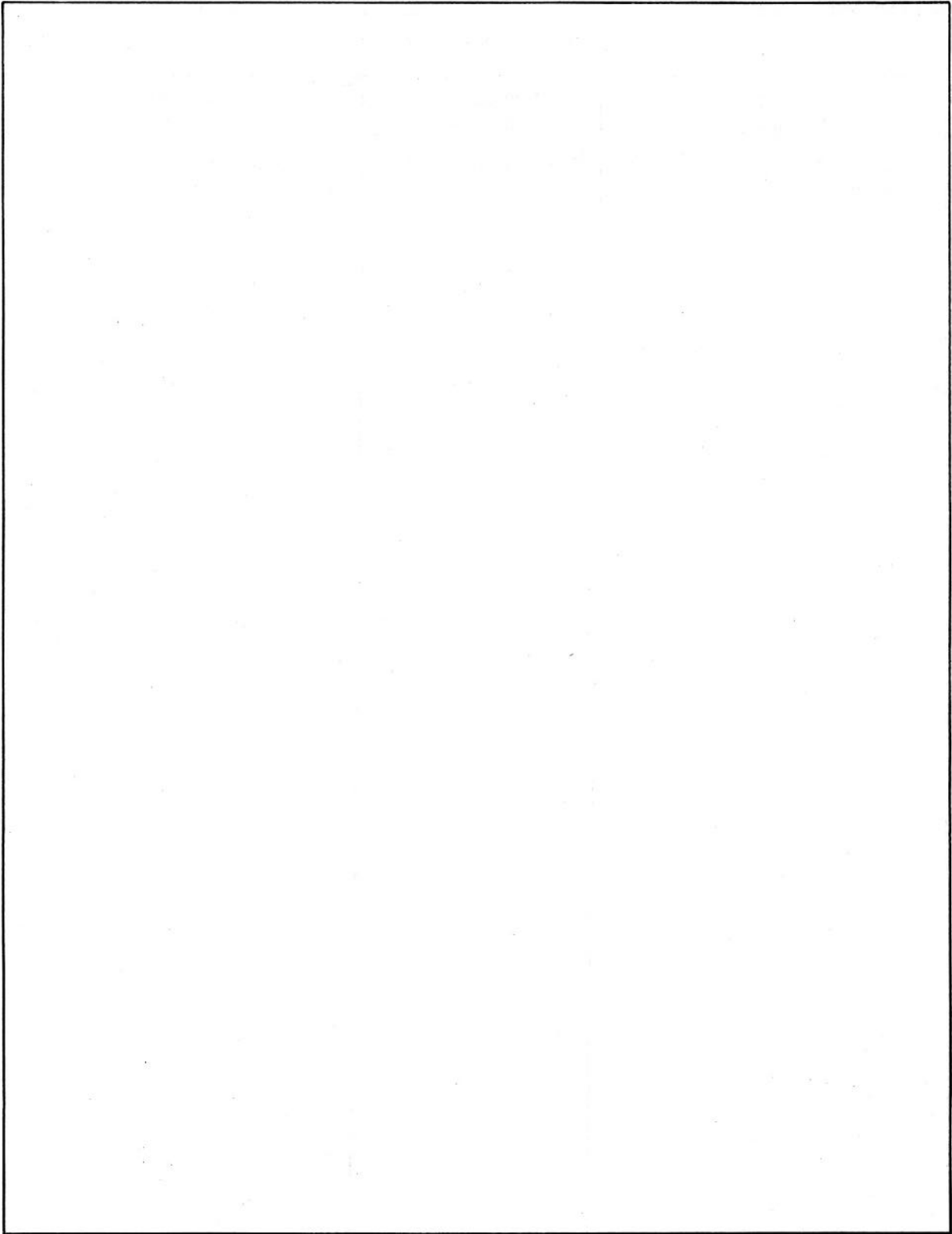
MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Organizational maintenance	No special tools or equipment required.			TM 11-1192, Chapter 4, Section IV.
Alignment, adjustment procedures, and final testing	Multimeter: 1.5 to 77 VAC 0.5 to 2.5 ma	TS-352( )/U	AN/PSM-4A	TM 11-1192, Chapter 6, Sections X and XI.
	Radar test set:	AN/UPM-6( )	AN/UPM-4( )	
	Radar test set:	AN/UPM-4( )		
	Oscilloscope:	TS-239A/UP	AN/USM-24( )	
	Signal generator: 55 to 65 MC	TS-452B/U		
	Signal generator: 55.5 to 64.25 MC	TS-497B/URR	AN/URM-26( )	
	VTVM: 0 to 7 VAC	TS-505/U	ME-25( )/U	
	Pulse generator set: 3500 to 4250 PPS	AN/UPM-15	212A* Hewlett Packard	
VTVM: .01 to .012 VAC	ME-6( )/U	ME-30( )/U		
	* Non T/A item.			

INTERROGATOR SET AN/TPX-21

October 1961

Interrogator Set AN/TPX-21

EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
MCO 2005.63 Sup 3: Prevention of damage.	RT-264/UPX-6	Addition of new front panel screws and wiring.

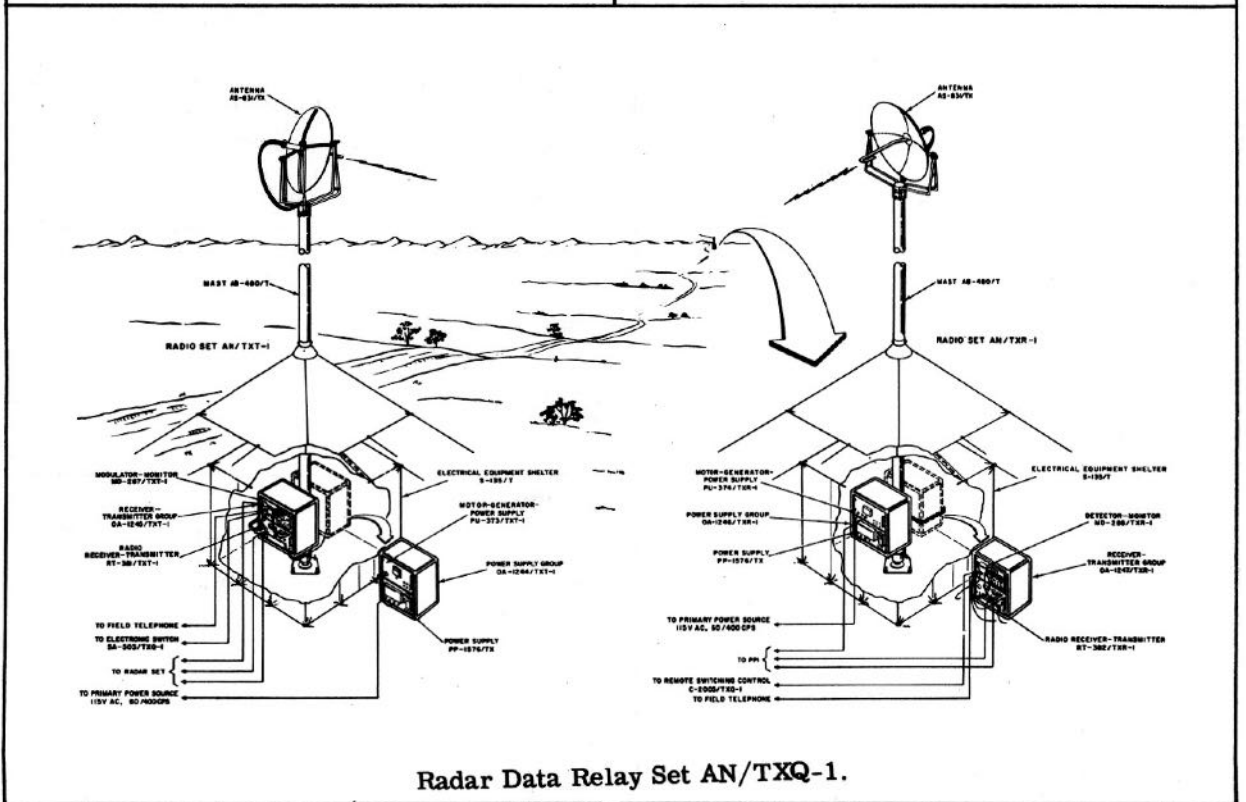


# RADAR DATA RELAY SET AN/TXQ-1

October 1961

Radar Data Relay Set AN/TXQ-1

GENERAL DATA	MAJOR UNITS
<p>F. S. N: 5820-642-7584                      ID Number: 00750A                      Function: Transmits information by means of a micro-wave carrier.                      Manufacturer: Motorola Incorporated Chicago, Ill.                      Contracts: NObsr 64571                      Approximate price: \$63,000.00                      Recommended operational checkout interval: <u>WEEKLY</u></p>	<ul style="list-style-type: none"> <li>(2) Antennas AS-831/TX</li> <li>(4) Cabinets CY-2033/TX</li> <li>(1) Control Group OA-1162/TXQ-1</li> <li>(1) Detector Monitor MD-288/TXR-1</li> <li>(2) Masts AB-480/T</li> <li>(1) Modulator Monitor MD-287/TXT-1</li> <li>(1) Motor-Generator PU-373/TXT-1</li> <li>(1) Motor-Generator PU-374/TXR-1</li> <li>(2) Power Supplies PP-1576/TX</li> <li>(1) Power Supply Group OA-1244/TXT-1</li> <li>(1) Power Supply Group OA-1246/TXR-1</li> <li>(1) Radio Set AN/TXT-1</li> <li>(1) Radio Set AN/TXR-1</li> <li>(1) Receiver-Transmitter RT-381/TXT-1</li> <li>(1) Receiver-Transmitter RT-382/TXR-1</li> <li>(1) Receiver-Transmitter Group OA-1245/TXT-1</li> <li>(1) Receiver-Transmitter Group OA-1247/TXR-1</li> <li>(3) Shelters S-135/T</li> </ul>



**RADAR DATA RELAY SET AN/TXQ-1**

Radar Data Relay Set AN/TXQ-1

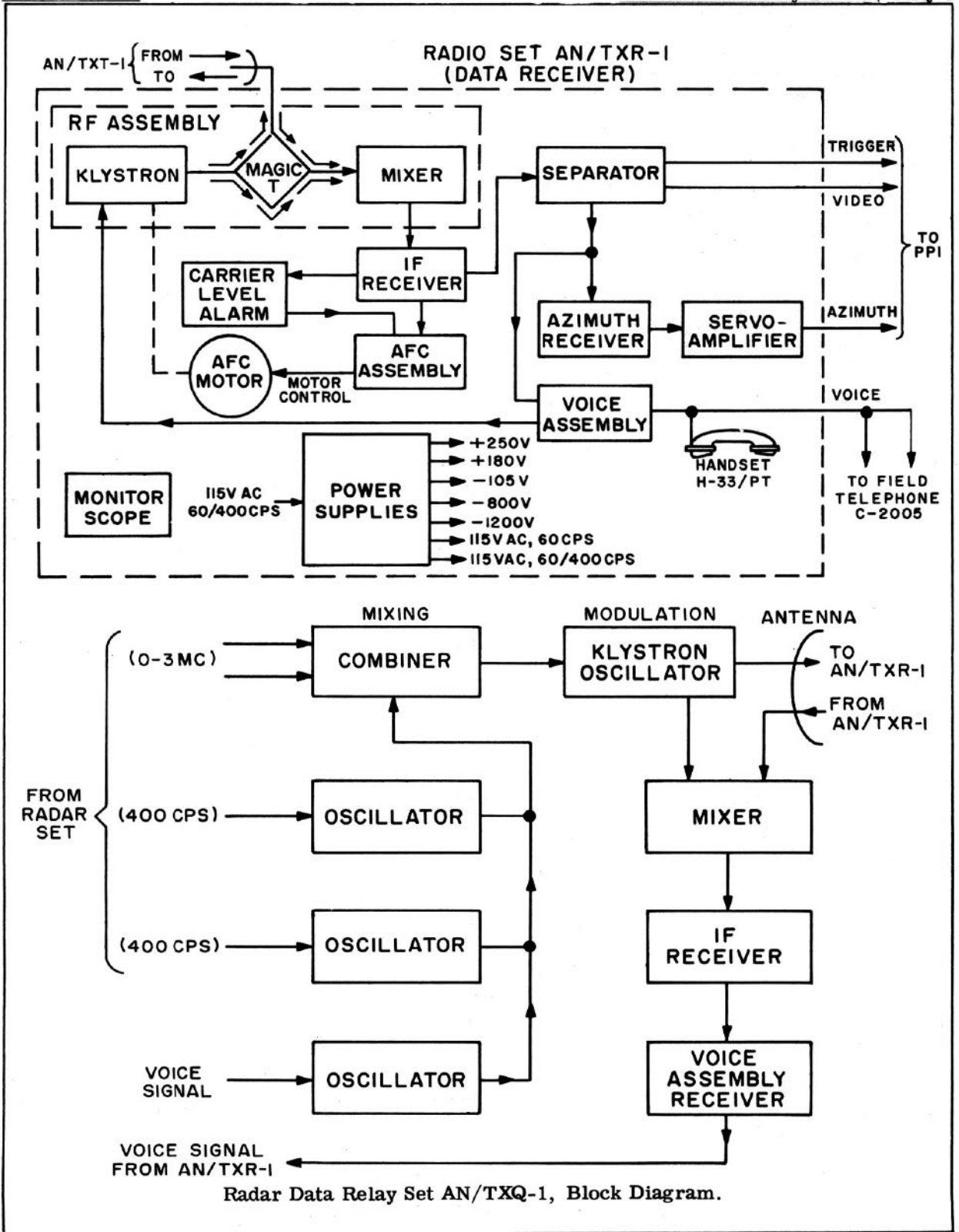
October 1961

OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS	
<p>Use: Radar Data Relay Set AN/TXQ-1 is designed for use with ground based search radar installations in tactical areas. The equipment serves as a microwave link, enabling presentation of radar data at a remotely located plan position indicator.</p> <p>Used with: Indicator Groups AN/UPA-25 and AN/UPA-25A.</p> <p>Installation: Transportable.</p>	Frequency range:	4600 to 5000 MC, continuously tunable.
	Type of frequency control:	Manual in AN/TXT-1, Automatic in AN/TXR-1.
<p align="center"><b>SIMILAR EQUIPMENTS</b></p>	Type of emission:	Frequency-modulated carrier with $\pm 3$ -MC deviation.
	Type of reception:	Frequency-modulation with a bandwidth of 9 MC.
	Nominal carrier output:	1 watt to antenna (antenna gain 31.5 db).
	Input data:	
	Video:	Positive 1.5 to 2.5 V pulses from 75-ohm source.
	Trigger:	Positive 25 to 50 V pulses from 75-ohm source.
	Azimuth:	Standard 115/90-volt synchro voltages (antenna rotation 0 to 15 RPM).
	Audio:	200 millivolts RMS from field telephone.
	Input voltage:	115 volts, 60 or 400 CPS, single phase.
	<b>PHYSICAL CHARACTERISTICS</b>	
Unit	Overall Weight (in lbs)	Cubic Feet
AN/TXQ-1	4376 (in 14 packages)	365 (crated)

RADAR DATA RELAY SET AN/TXQ-1

October 1961

Radar Data Relay Set AN/TXQ-1



Radar Data Relay Set AN/TXQ-1, Block Diagram.

RADAR DATA RELAY SET AN/TXQ-1

Radar Data Relay Set AN/TXQ-1

October 1961

PUBLICATIONS

NAVSHIPS 92767A, Radio Set AN/TXQ-1,  
Oct 58.  
NAVSHIPS 92767.32, PSS Radio Set  
AN/TXQ-1, Apr 59.  
NAVSHIPS 92767.42, Maint Stds Radio Set  
AN/TXQ-1, Feb 59.  
NAVSHIPS 92767.51, Maint Prints Radio Set  
AN/TXQ-1, Mar 59.  
NAVSHIPS 92768.32, PSS Control Group  
OA-1162/TXQ-1, Feb 59.  
NAVSHIPS 92768.42, MSB Control Group  
OA-1162/TXQ-1, May 59.

NAVSHIPS 92768A, TM Control Group  
OA-1162/TXQ-1, Mar 59.  
RPL 00750A INT, Radio Set AN/TXQ-1,  
Sep 59.  
RPL 01458A, Control Group OA-1162/TXQ-1  
SL-3-00750A, Radio Set AN/TXQ-1, Jan 61.  
TM 11-5965-202-12P, Handsets H-33/PT  
Series, Apr 59.  
TM 11-5965-202-35P, Handsets H-33E/PT,  
H-33F/PT, Jan 61.

RADAR DATA RELAY SET AN/TXQ-1

October 1961

Radar Data Relay Set AN/TXQ-1

MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
AN/TXQ-1 Tuning and adjustment	Multimeter: 0 to 225 VDC and 0 to 100 VAC	AN/USM-34	ME-25( )	NAVSHIPS 92767(A), paragraph 6-2.
	Frequency meter: 3.5 to 4.3 MC	LM-( )	AN/URM-32	
	Pulse generator	AN/UPM-55	AN/UPM-15	
	Signal generator: 3.5 to 25 MC	AN/URM-25( )	TS-497B/URR	
	Audio oscillator: 400 CPS	LAJ-2	TS-382( )/U	
	Oscilloscope	AN/USM-24( )	AN/USM-32	
OA-1162/TXQ-1 Control Group adjustment	Multimeter: 0 to 0.3 VAC	AN/USM-34	ME-25( )	NAVSHIPS 92768(A), Section 6-2.



RADAR DATA RELAY SET AN/TXQ-1

Radar Data Relay Set AN/TXQ-1

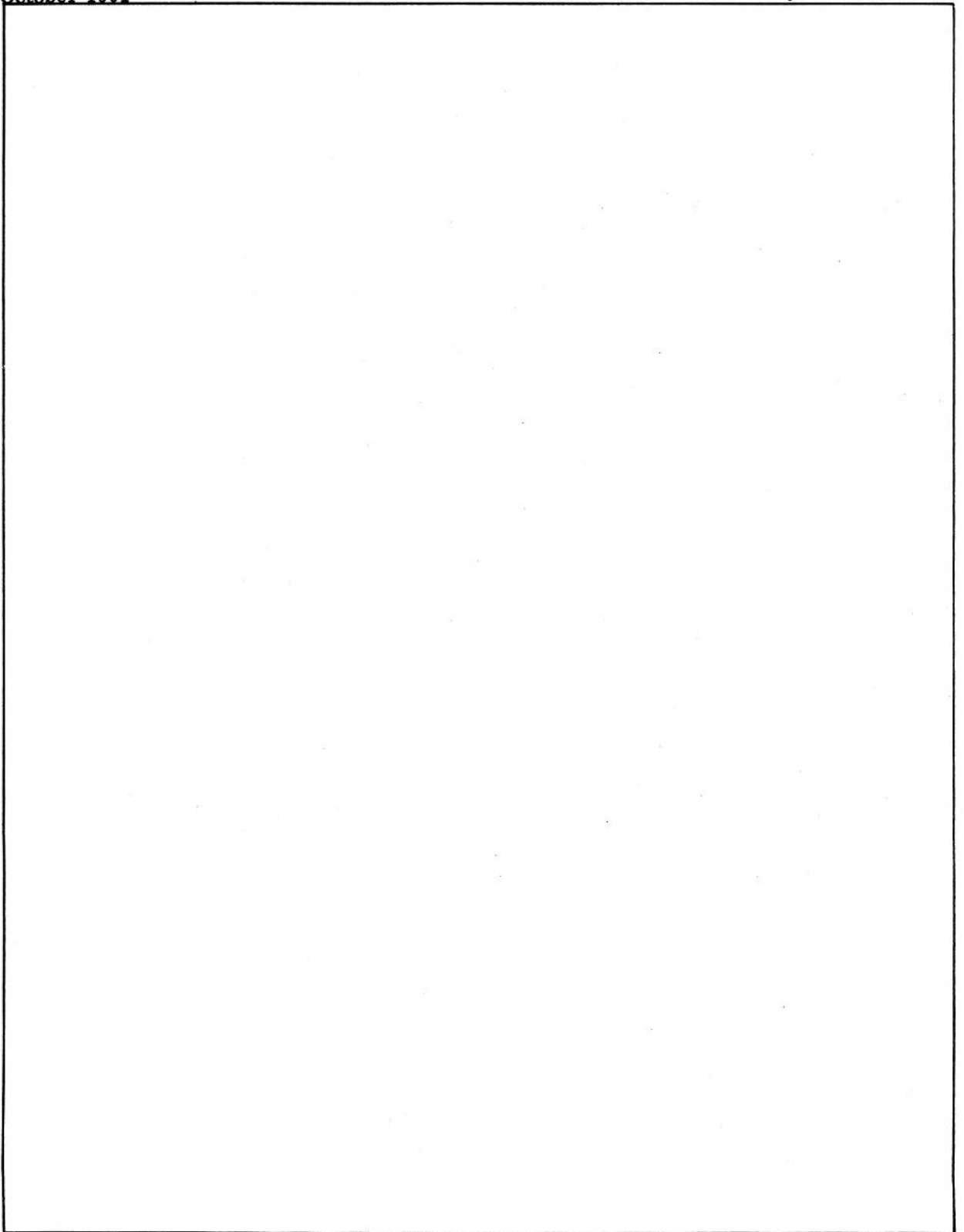
October 1961

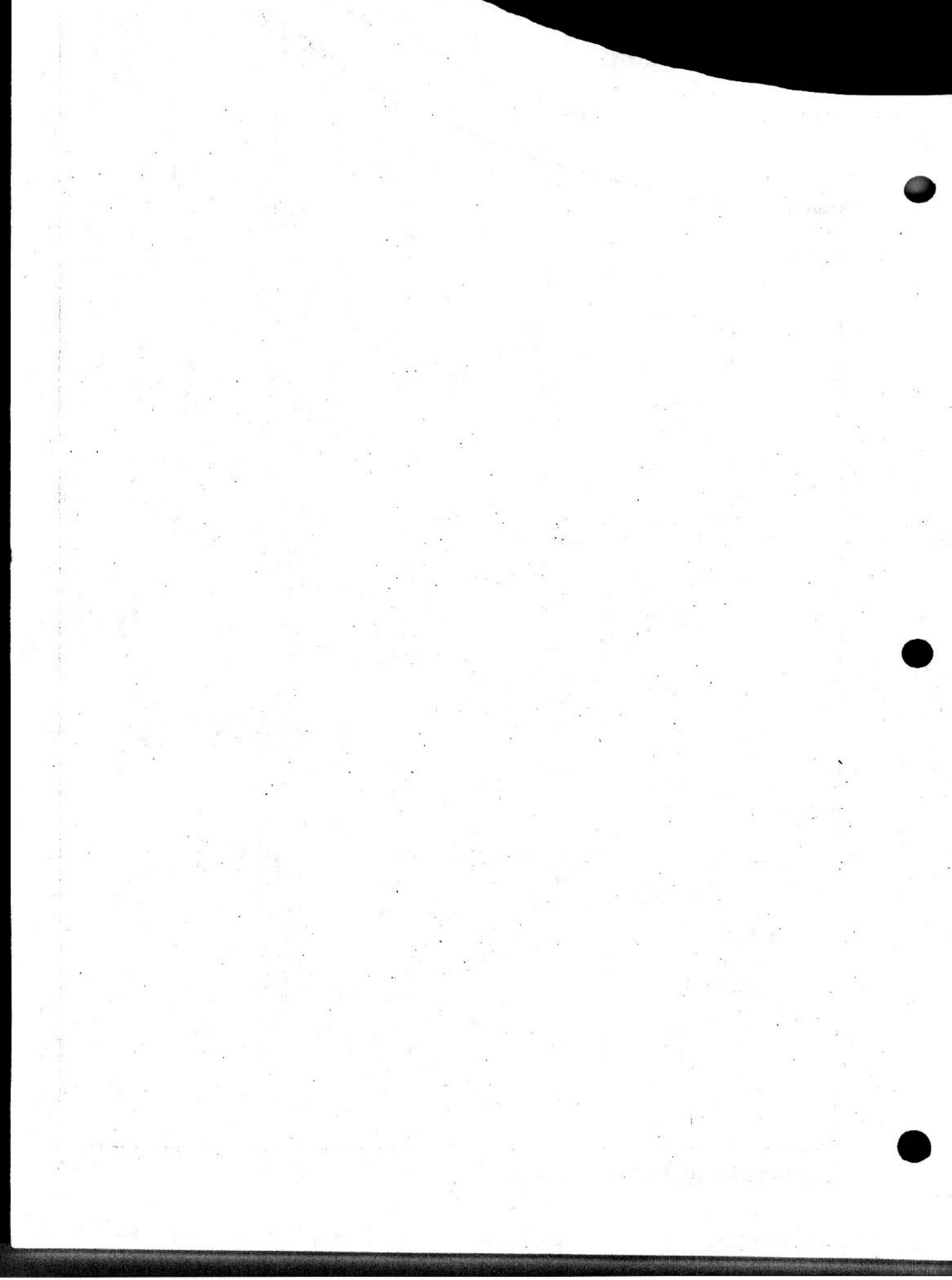
EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
MCO 2005. 66 Sup 2: To provide for use of additional radar sets.	MD-287/TXT-1 PU-374/TXR-1	Addition of internal-external synchro excitation switch on front panel of Modulation Monitor MD-287/TXT-1.

RADAR DATA RELAY SET AN/TXQ-1

October 1961

Radar Data Relay Set AN/TXQ-1



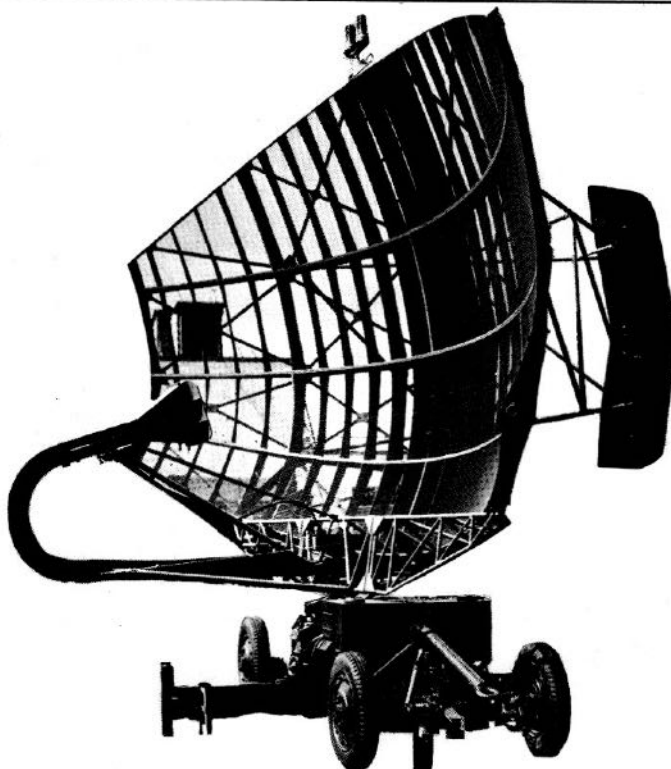


RADAR SET AN/MPS-11A

October 1961

Radar Set AN/MPS-11A

GENERAL DATA		MAJOR UNITS	
F. S. N:	5840-505-0620	(2)	Motor Generator Set PU-239/G
ID Number:	00061A	(1)	Van Trailer, V-85/MPS-11A
Function:	Aircraft detection	(1)	Van Trailer, V-106/MPS-11A
Manufacturer:	General Electric Co., Syracuse, New York	(1)	Antenna Trailer V-98/MPS
Contracts:	AF-33(038)13876	(2)	Truck 2 1/2 Ton
Approximate price:	\$207,000.00	(1)	Antenna Case CY-1663/MPS
Recommended operational checkout interval:	<u>DAILY</u>	(1)	Antenna Tower AB-396/MPS
		(1)	Modulator Group OA-414/FPS-8
		(1)	Power Supply Group OA-412/FPS-8
		(1)	Transmitter Group OA-413/FPS-8
		(1)	Antenna Group OA-405/FPS-8
		(1)	Antenna Control C-1133/FPS-8
		(1)	Motor Generator PU-289/G
		(1)	Receiver Group OA-417/FPS-8
		(1)	Radar Set Group OA-381/FPS-8
		(1)	Radar Set Group OA-416/FPS-8
		(5)	Indicator Group AN/UPA-25
		(1)	Range Indicator IP-209/FPS-8
		(1)	Power Switchboard SB-245/FPS-8
		(1)	Switching Group OA-415/FPS-8
		(1)	IFF Equipment CY-1651/TPX-18A

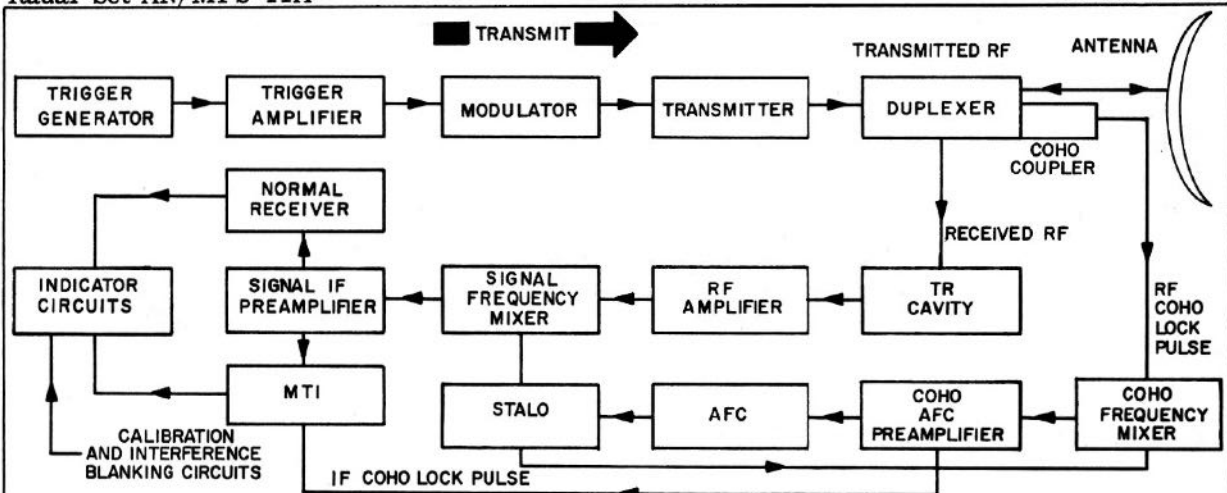


Radar Set AN/MPS-11A.

# RADAR SET AN/MPS-11A

Radar Set AN/MPS-11A

October 1961



Radar Set AN/MPS-11A System Block Diagram.

OPERATIONAL CHARACTERISTICS			TECHNICAL CHARACTERISTICS	
<p>Use: Detection of aircraft within a 200-mile radius of the radar set.</p> <p>Used with: Interrogator Set AN/TPX-18A and Indicator Group AN/UPA-25.</p> <p>Installation: Mobile, mounted in 2-1/2 ton, 6 x 6 M35 truck and 3 trailers.</p>			<p>Transmitter:</p> <p>Frequency: 1280 to 1350 MC</p> <p>Power output: 1 Megawatt</p> <p>Pulse repetition frequency: 360 PPS <math>\pm</math> 10 PPS</p> <p>Pulse width: 1.7 to 3 usec</p> <p>Standing wave ratio: Not greater than 1.5</p>	
SIMILAR EQUIPMENTS			<p>Receiver:</p> <p>Frequency: 1280 to 1350 MC</p> <p>Minimum discernible signal: 106 db below 1 MW</p> <p>Noise figure: Less than 10.5 db</p> <p>Video gain: 12 db</p> <p>IF gain: 55 db</p> <p>IF preamplifier gain: 30 db</p> <p>Recovery time: 53 usec</p> <p>Signal IF frequency: 30 MC <math>\pm</math> 0.2 MC</p> <p>STALO frequency: 30 MC <math>\pm</math> 0.2 MC</p>	
<p>Radar Set AN/TPS-15, an L-band radar of 500 kilowatts power output.</p>			<p>Moving target indicator:</p> <p>Type: Coherent video cancellation</p>	
PHYSICAL CHARACTERISTICS			<p>COHO center frequency: 30 MC <math>\pm</math> 0.2 MC</p> <p>Bandwidth: 1 MC</p> <p>Limiting IF frequency: 30 MC <math>\pm</math> 0.2 MC</p> <p>Bandwidth: 1 MC</p> <p>Phase detector center frequency: 30 MC <math>\pm</math> 0.2 MC</p> <p>Bandwidth: 1 MC</p> <p>Minimum discernible signal: 102 db below 1 MW</p> <p>Line driver carrier frequency: 9 MC <math>\pm</math> 0.5 MC</p> <p>Range: 200 nautical miles</p>	
Unit	Overall Weight (in lbs)	Cubic Feet		
AN/MPS-11A	79002 (Mounted in 2-1/2 ton 6x6 M35 truck and 3 trailers)	8656		

RADAR SET AN/MPS-11A

Revised  
April 1962

Radar Set AN/MPS-11A

PUBLICATIONS	
AN 16-30-UPM-15-2, Pulse Generator Set AN/UPM-15, Sep 53.	SL-3-00004A, Multimeter ME-25A/U, Jan 61.
D/L VOL I, Indicator Group AN/UPA-25, Dec 56.	SL-3-00004A, Multimeter ME-25A/U, Apr 61, Ch 1.
D/L VOL I, Pulse Generator Set AN/UPM-15, Jun 56.	SL-3-00011C, Multimeter TS-352B/U, Jun 61.
D/L VOL II ADV, Radar Set AN/MPS-11A, Jul 55.	SL-3-00119A, Radar Test Set AN/UPM-6B, Oct 61.
LO 9-8022, Lubrication Order, Aug 57.	SL-3-00321A, Generator Signal TS-382D/U, Oct 61.
NAVMC ELECT 2000, Radar Set AN/MPS-11A Jun 55.	SL-3-00671A, Tool Kit Fld Maint 3 Ech Spcl Basic, Apr 60.
NAVMC ELECT 2008, Instruction Book ME-25A/U.	SL-3-00682A, Tool Kit Field Maint 3 Ech Supp Gov, Apr 60.
NAVMC ELECT 2036, Electronic Multimeter ME-6C/U.	SL-3-01496A, Tool Kit Field Maint 4 Ech Supp Gov, Apr 60.
NAVSHIPS 91467A, Radar Test Set AN/UPM-6A, 6B, 6C, Oct 51.	SL-3-0150-2A, Tool Kit Org M 2nd Ech Spcl Set B, Apr 60.
NAVSHIPS 91687A, Oscilloscope AN/USM-24, Nov 52.	SL-4-00001A, Multimeter ME-6C/U, Sep 61.
NAVSHIPS 91687A, Oscilloscope AN/USM-24, Jun 55, Ch 1.	SL-4-00011C, Multimeter TS-352B/U, Feb 61.
NAVSHIPS 91994, Indicator Group AN/UPA-25, Jul 53.	SL-4-00011C, Multimeter TS-352B/U Sep 61, Ch 1.
NAVSHIPS 92216A, Interrogator Set AN/TPX-18A, Apr 58.	SL-4-00020, Test Sets Elect Tube TV-7, A, B, D/U, Jul 61.
NAVSHIPS 98506, FC-2 Radar Test Set AN/UPM-6B, Aug 54.	SL-4-00120A, Pulse Generator Set AN/UPM-15, Nov 60.
RPL, Dummy Load Electrical DA-90/U, Jan 58.	SL-4-01256A, Generator Signal AN/URM-26B Jul 61.
RPL, Generator Diesel Engine PU-239D/G Dec 57.	SNL G-249 ORD8 V12, Winterization Equipment, Jan 55.
RPL 00004A INT, Multimeter ME-25A/U, Sep 58.	SNL G-742 ORD 8, Field and Depot Maint Allowances, Sep 57.
RPL 00321A, Generator, Signal TS-382D/U, Jun 59.	SNL G-742 ORD 9, List of all Parts, Jan 55.
RPL 01148B, Modification Kit AN/TPX-18A, Sep 58.	TB ORD 245, Std Proced Dep O/Haul Ord Tank-Auto, Aug 61.
SIG M8, Indicator Group AN/UPA-25, Dec 53.	TB ORD 392, Int Lub New Rebuilt Gas Eng B Use, Sep 60.
SIG M8, Interrogator Set AN/TPX-18A, Mar 55.	TB ORD 460, Liq Cool Eng-Equip Clean Drain Hole, Jul 52.
SIG M8, Radar Set AN/MPS-11A, Mar 55.	TB ORD 485, M Models Servicing Data Plate Corr, Jan 53.
SIG M8, Radar Set AN/MPS-11A, Feb 56, Ch 1.	TB ORD 500, 2-1/2.5T M Ser Veh Weld Tie-Rod End, Apr 53.
SIG M8, Radar Test Set AN/UPM 6A, 6B, Oct 55.	TB ORD 524, Installed Metal Tanks Clean-Preserv, Jun 53.
SIG M8 FC-2, Radar Test Set AN/UPM-6B, Jul 58.	TB ORD 616, Tact-Comm Mover-Trlr's Interveh Conn, Aug 56.
SIG M8 SUPP, Indicator Group AN/UPA-25, Apr 57.	TB 9-248, Rubber Preserv Descript-Application, Sep 58.
SL-3-00001, Multimeter ME-6C/U, ME-6D/U, Jan 62.	TB 9-265, Discontinuance Red Paint Mk Lub Pts, Dec 58.

RADAR SET AN/MPS-11A

Revised  
April 1962

Radar Set AN/MPS-11A

PUBLICATIONS

TB 9-282, Combat Veh Protect Insul Comm Equip, Sep 59.	TM 9-1827A, Power Brake Sys Bendix-Westinghouse, Feb 53.
TB 9-296/64, Multimeter TS-352, A, B/U, Feb 61.	TM 9-1827C, Brake-Misc Equip Wagner-Lockhead, Jan 53.
TB 9-300-1/1, Combat Veh Insp Care Pres Our Stor, May 60.	TM 9-1828A, Fuel Pumps, Dec 52.
TB 9-300-1/1, Combat Veh Insp Care Pres Our Stor, Nov 61, Ch 1.	TM 9-1828A, Fuel Pumps, Ch 1.
TB 9-343, Ord Veh Install-Use Overhaul Plates Apr 60.	TM 9-1829A, Ord Maint Speedometers Tachometers, Apr 44.
TB 9-819-16, Correction of Loose Vibration Damp, Mar 53.	TM 9-1870-1, Care and Maint of Pneumatic Tires, Feb 55.
TB 9-1859-3, Time Schedule Guide, Mar 53.	TM 9-1870-1, Care and Maint of Pneumatic Tires, Ch 1.
TB 9-1859-3, Time Schedule Guide, Ch 1.	TM 9-2320-209-20P, Organizational Repair Prts Sp Tools, Apr 59.
TB 9-1870-1/1, Care Pneumatic Tires and Inner Tube, Jul 56.	TM 9-2320-209-20P, Organizational Repair Prts Sp Tools, Ch 1.
TB 9-1870-1/2, Pneum Tires Tubes Flaps Inst Unserv, Feb 57.	TM 9-2853, Prep Ord Mtl F/Deep Water Forging, Jul 45.
TB 9-23 00-206-15, Test-Rebuild 100 amp 28V Gen System, Nov 58.	TM 9-2853, Prep Ord Mtl F/Deep Water Forging, Ch 1.
TB 9-2300-228-20, Trouble Shoot F/Ins Cluster Wiring, Jul 60.	TM 9-6140-200-15, Oper-Org F-D Maint Stor Bat Lead-Ac, Jul 58.
TB 9-2855-8, Installation of Personnel Heater Kt, Jul 54.	TM 9-8000, Principles of Automotive Vehicles, Jan 56.
TB 9-2855-9, Installation of Power Plant Heater, Jan 55.	TM 9-8022, Operation and Organizational Maint, Dec 54.
TB 9-2855-10, Installation of Hardtop Close Kit, Jul 53.	TM 9-8022, Operation and Organizational Maint, Ch 3.
TB 9-2855-41, Installation of Personnel Heater Kt, Dec 56.	TM 9-8022, Operation and Organizational Maint, Oct 58, Ch 4.
TB 9-8022-22, 2-1/2T 6x6 M Series Inst Thermostat, Apr 55.	TM 9-8022, Operation and Organizational Maint, Ch 5.
TB 9-8022-26, 2-1/2T M Series Trks Inst Air Gov, Nov 56.	TM 9-8022, Operation and Organizational Maint, Ch 6.
TB 11-5083-1, Test Data TV-7, A, B, D/U, Oct 57.	TM 9-8023-1, Ord Maint Eng Clutch 2 1/2T 6x6 Trk, Mar 57.
TB 11-5083-1, Test Data TV-7, A, B, D/U, Dec 58, Ch 1.	TM 9-8023-1, Ord Maint Eng Clutch 2 1/2T 6x6 Trk, Ch 1.
TB 11-5083-1, Test Data TV-7, A, B, D/U, Apr 59, Ch 2.	TM 9-8023-2, Ord Maint Pwr Train Cab and Chassis, Mar 56.
TB 11-5083-1, Test Data TV-7, A, B, D/U, Feb 60, Ch 3.	TM 9-8023-2, Ord Maint Pwr Train Cab and Chassis, Ch 1.
TB 11-5083-1, Test Data TV-7, A, B, D/U, Jun 60, Ch 4.	TM 9-8023-3, Body and Auxiliary Equipment, May 50.
TI-00061A-15/1, Erection of Antenna Twr AB-396/MPS, Jul 61.	TM 9-8615, Steering Gears, Jun 53.
TM 9-207, Oper Maint Ordmatl in Extreme Cold, Sep 59.	TM 9-8617, Winches Pwr Takeoff Divider Hyd Eq, May 55.
TM 9-236, Military Tactical Vehicles, Sep 60.	TM 9-8621, Power Train Components, Dec 53.
TM 9-18258, Electrical Equipment Auto-Lite, Nov 52.	TM 9-8623, Axles and Transfers, Apr 54.
	TM 9-8623, Axles and Transfers, Ch 1.

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| <p>TM 9-8627, Electrical Equipment Delco-Remy, Jun 53.</p> <p>TM 9-8627, Electrical Equipment Delco-Remy, Ch 1.</p> <p>TM 9-8662, Fuel Burn Heat F/Winter Equipment, Mar 54.</p> <p>TM 10-500-20, Air Dly of Supp Equip of Truck M34, Nov 58.</p> <p>TM 10-500-20, Air Dly of Supp Equip of Truck M34, Ch 1.</p> <p>TM 11-5527, Multimeters TS-352-A-B/U, Oct 56.</p> <p>TM 11-5527, Multimeters TS-352-A-B/U, Feb 57, Ch 1.</p> <p>TM 11-5527, Multimeters TS-352-A-B/U, Dec 57, Ch 2.</p> <p>TM 11-6625-224-10P, Oscilloscope AN/USM-24B and C, Dec 58.</p> <p>TM 11-6625-224-20P, Oscilloscope AN/USM-24B and C, Feb 59.</p> <p>TM 11-6625-224-20P, Oscilloscope AN/USM-24B and C, Sep 60, Ch 2.</p> <p>TM 11-6625-224-35P, Oscilloscope AN/USM-24B and C, Feb 59.</p> <p>TM 11-6625-236-10P, Range Calibrators TS-573, A, B/UP, Dec 58.</p> <p>TM 11-6625-236-15, Range Calibrators TS-573, A, B/UP, Nov 60.</p> <p>TM 11-6625-236-20P, Range Calibrators TS-573, A, B/UP, Dec 58.</p> <p>TM 11-6625-236-35P, Range Calibrators TS-573, A, B/UP, Jan 59.</p> <p>TM 11-6625-261-12, Audio Oscillators RS-382A, B, D, E, F/U, Apr 61.</p> | <p>TM 11-6625-261-35, Audio Oscillators TS-382A, B, D, E, F/U, Aug 61.</p> <p>TM 11-6625-274-12, Test Sets Elect Tube TV-7, A, B, D/U, Jun 60.</p> <p>TM 11-6625-274-35, Test Sets Elect Tube TV-7, A, B, D/U, Jun 60.</p> <p>TM 11-6625-283-10P, Signal Generators TS-452, B, C/U, Jul 59.</p> <p>TM 11-6625-283-20P, Signal Generators TS-452B, C/U, Jul 59.</p> <p>TM 11-6625-283-35, Signal Generators TS-452B C/U, Jan 61.</p> <p>TM 11-6625-283-35P, Signal Generators TS-452B, C/U, Jul 59.</p> <p>TM 11-6625-299-10P, OP Mt Signal Generator AN/URM-64, A, Jul 59.</p> <p>TM 11-6625-299-15, Signal Generators AN/URM-64, A, Jan 59.</p> <p>TM 11-6625-299-20P, OR Mt Signal Generator AN/URM-64, A, Jul 59.</p> <p>TM 11-6625-299-35P, F D Mt Signal Generator AN/URM-64, A, Jul 59.</p> <p>TM 21-300, Driver Selection and Training, Dec 58.</p> <p>TM 21-305, Manual for Wheeled Vehicle Driver, Dec 56.</p> <p>TM 21-305, Manual for Wheeled Vehicle Driver, Ch 1.</p> <p>TO 16-30MPS11-11, Oper-Svc Instr Trl V-85, 106/MPS-11A, Jan 55.</p> <p>TO 31P6-2FPS8-1, Oper Radar Sets AN/FPS-8, AN/MPS-11, Sep 59.</p> <p>TO 31P6-2FPS8-2, SVC Radar Sets AN/FPS-8, AN/MPS-11, Sep 59.</p> <p>TO 33AA7-26-1, Oper-SVC Instr Dummy Load DA-90/U, Sep 57.</p> |
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MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Operating checks and adjustments	No test equipment required.			TO 31P6-2FPS8-1, Section III, paragraphs 3-1 through 3-13.
Organizational maintenance	Multimeter	AN/PSM-6	TS-352 ( )/U AN/PSM-4	TO 31P6-FPS8-2, Section II, page 57, Table 2-1.
RF tests	Signal generator: 900 to 2100 MC.	AN/URM-64	TS-419/U*	
	Oscilloscope	OS-8B/U	AN/USM-24 ( )	
	VTVM: High impedance RF.	TS-505A/U	ME-25A/U	
IF tests	Signal generator: 5 to 100 MC sweep	AN/TRM-3	TS-452 ( )/U	
	Pulse generator: 50 to 10,000 PPS, variable delay up to 225 usec, pulse width 0.5 to 100 usec.	AN UPM-15	HP-212A*	
	Oscilloscope	AN/USM-24	AN/USM-137	
	Audio oscillator: 5 to 600,000 CPS.	AN/USM-30	TS-382 ( )/U	
Ripple measurements	VTVM: 20 CPS to 2 MC	ME-30/U	HP-400D* ME-6C/U	
RF measurements	Echo box: 1280 to 1350 MC	TS-172/UP	AN/UPM-30* SM-65/UP	
IF tests	Signal generator 2 to 400 MC.	TS-497B/URR	AN/URM-26	
Alignment and adjustment	Echo box: 1280 to 1350 MC.	TS-172/UP	AN/UPM-30*	TO 31P6-2FPS8-2 Vol I, Section V, paragraphs 5-95 through 5-184.
	Oscilloscope	AN/USM-24 ( )	AN/USM-137	
	Audio oscillator: 60 to 120 CPS.	TS-382 ( )/U	LO- ( )	

\*Non T/A item

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MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Alignment and adjustment	VTVM: 0.002 to 0.5 VAC.	ME-30/U	TS-375A/U* ME-6C/U	TO 31P6-2FPS8-2, Vol 1, Section V, paragraphs 5-95 through 5-184.
	Signal generator: 7.85 to 30 MC.	TS-497/URR	AN/URM-26 ( )	
	Pulse generator: 360 to 3,000 PPS, 1 and 2 usec pulse width	AN/UPM-15	HP-212A*	
	Oscilloscope	TS-239A/U	AN/USM-137 AN/USM-24() ME-25 ( )/A TS-505/U	
	VTVM: 1.6 to 20 VAC, 0.5 VDC.	TS-375A/U		
	Signal generator: 30 MC.	AN/TRM-3	TS-452 ( )/U	
	Pulse generator	HP-212A	AN/UPM-15	
	Attenuator 50 ohms, 10 db	Daven Type 640		
	Radar test set	AN/UPM-41		
	Variac: 114 to 126 VAC.	CN-16	NT302778	
	Grid-dip meter: 9 MC.	Measurement Corp. Model 59	AN/PRM-10	
Multimeter: 114 to 126 VAC, 120 to 250 VDC.	AN/PSM-6	AN/PSM-4A TS-352 ( )/U		
Signal generator: 1280 to 1350 MC.	TS-419/U	AN/URM-64		

\*Non T/A item

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MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
	For maintenance instructions on AN/TPX-18A, AN/UPA-25 and PU-239/G see appropriate publications in this manual.			

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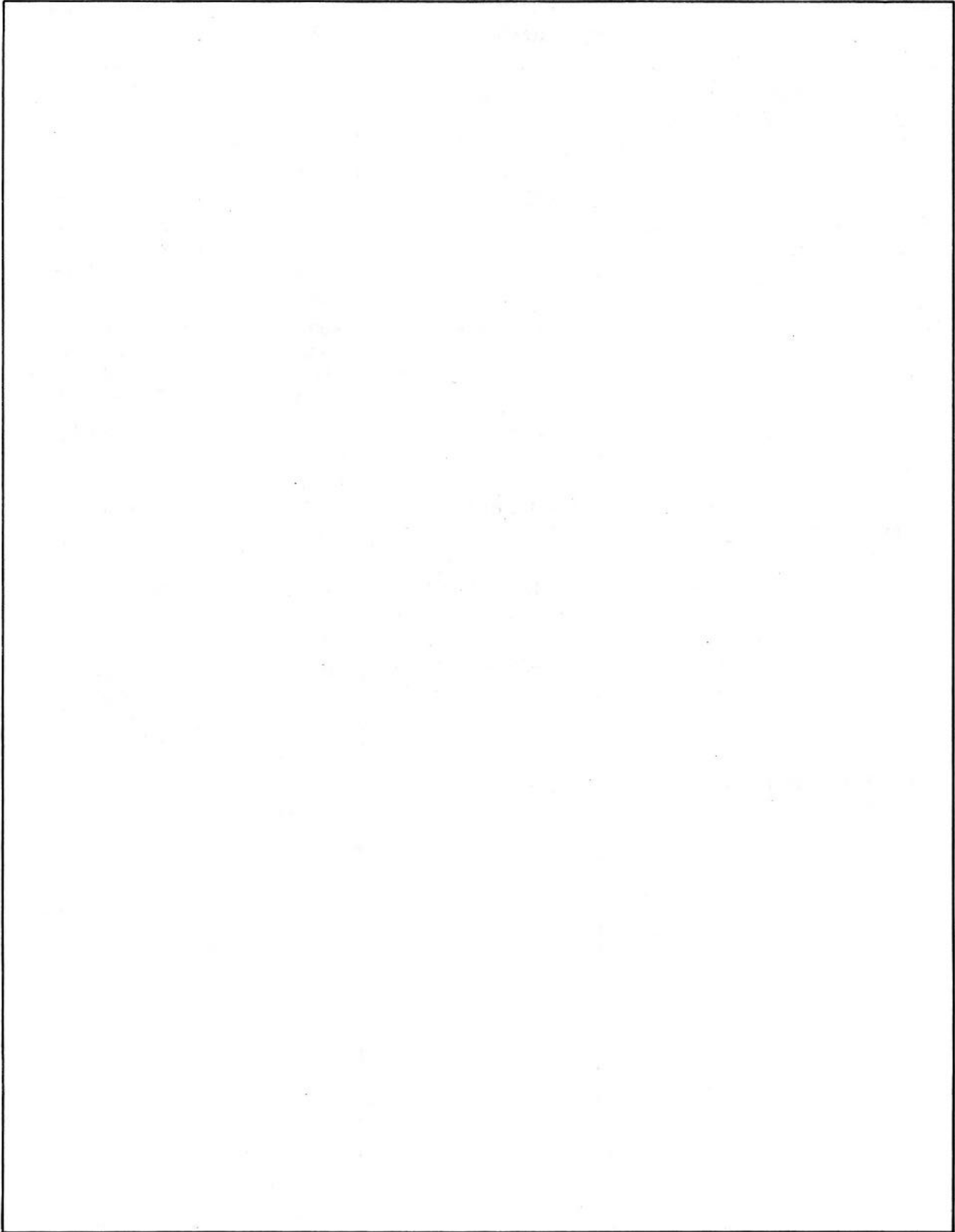
Radar Set AN/MPS-11A

EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
2005.14 Sup 2: To mark antenna sections.	OA-405/FPS-8	Antenna sections marked to simplify loading.
2005.14 Sup 4: To replace certain tubes with longer lasting types.	TD-86/FPS-8 PP-861/FPS-8	Jan type 5814WA tubes V5201, V5205, V5213, V5214 replaced with 12AU7 tubes. 12AU7 tube V5611 replaced with Jan type 5814WA.
2005.14 Sup 5: To eliminate a shock hazard.	C-1133/FPS-8	Addition of a multiconductor wire connected between terminal board TB-2601-1 and terminal board TB-2607-19.
2005.14 Sup 6: Transportation instructions for the antenna trailer.	V-98/MPS	Approved methods for transporting antenna trailer to prevent damage.
2005.14 Sup 8: To modify trigger circuit in signal comparator.	CM-45/FPS-8	R-7537 (120 ohms) and R-7536 (1200 ohms) replaced with 680-ohm resistors.
2005.14 Sup 9: To install parametric amplifier.	OA-417/FPS-8	RF amplifier AM-732/FPS-8 replaced with parametric amplifier.
2005.14 Sup 10: To modify IF amplifier	AM-622/FPS-8	Resistor R-21799 replaced by two 10-Kohms, 2-watt, resistors. Resistor R-21800 replaced by a 6800-ohm 1-watt resistor.
2005.14 Sup 11: To install radar test set.	TS-1478/UPM	Addition of Radar Test Set TS-1478/UPM.

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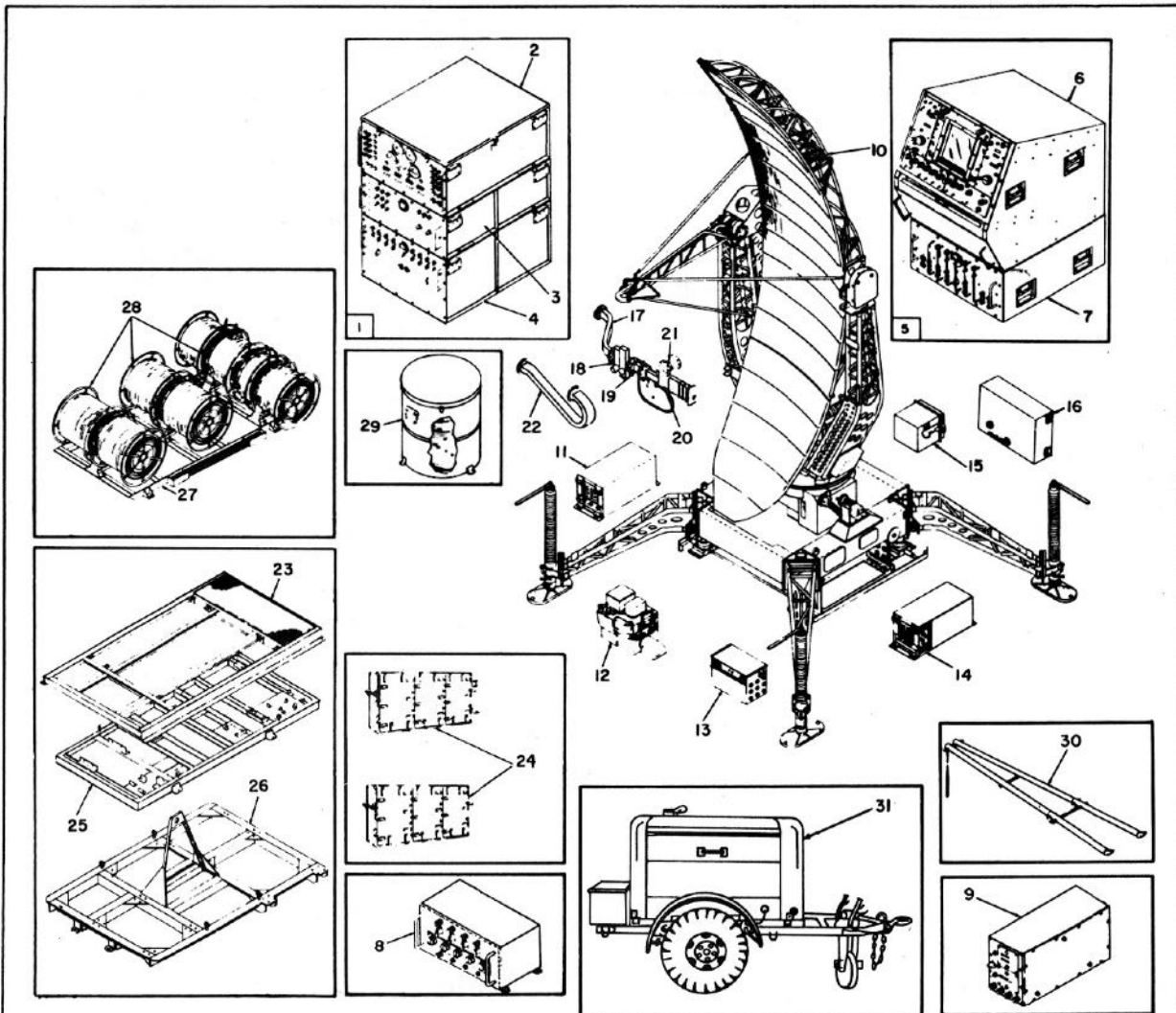
Radar Set AN/MPS-16A

GENERAL DATA	MAJOR UNITS
<p>F. S. N: 5840-620-4577                      ID Number: 00724A                      Function: Detection of aircraft height.                      Manufacturer: Avco, Crosley Div. Wilmington, Mass.                      Contracts: AF30(635)8572                      AF30(635)1103                      Approximate price: \$169,000.00                      Recommended operational checkout interval: <u>DAILY</u></p>	<p>Outdoor Components                      (1) Antenna Group OA-1196/MPS-16                      (1) Radar Modulator MD-327/MPS-16                      (1) Modulator HVPS OA-1260/MPS-16                      (1) Transmitter T-668/MPS-16                      (1) RF Group OA-1265/MPS-16                      (1) Compressor Dehydrator HD-262/MPS-16                      (1) Antenna Distribution Unit J-736/MPS-16                      (1) Bi-directional Coupler CU-529/MPS-16                      (1) Pressure Inlet Section CG-1495/MPS-16                      (1) Phase Shifter TN-299/MPS-16                      (1) Transition Section CU-530/MPS-16                      (1) Flexible Waveguide CG-1499/U                      (1) Flexible Waveguide CG-1496/U                      Indoor Components                      (1) Radar Set Control OA-1233/MPS-16                      (1) Operations Distribution Unit J-770/MPS-16                      (1) Antenna and Transmitter Control Unit C-2001/MPS-16                      (1) RHI Data Generator Group OA-1232/MPS-16                      (1) Range Height Indicator Group OA-1259/MPS-16                      (1) Range Height Indicator IP-376/MPS-16                      (1) RHI Low Voltage Power Supply PP-1581/MPS-16                      (4) Remote Height Display OA-1242/MPS-16                      (1) Time Sharing Master Control C-1999/MPS-16                      Vehicular and Transport Components                      (3) AN/MPS-16 Transport Truck M-35                      (2) Trailer Equipment M-104                      (1) Generator Set PU-344( )/G                      (1) Spare Parts Pallet                      (1) Operations and Test Equipment Pallet Assembly                      (1) Cables and Reels Pallet Assembly</p>

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### INDOOR COMPONENTS

1. Radar set control group
2. ODU
3. Antenna and transmitter control group
4. RHI data generator group
5. RHI group
6. RHI
7. RHI low voltage power supply
8. Time sharing master control unit
9. RHD

### OUTDOOR COMPONENTS

10. Antenna group
11. Modulator
12. Transmitter
13. ADU
14. Modulator HVPS
15. Compressor-dehydrator
16. RF group
17. Flexible waveguide
18. Bidirectional coupler
19. Pressure inlet section
20. Phase shifter
21. Waveguide transition section
22. Flexible waveguide

### TRANSPORT EQUIPMENT

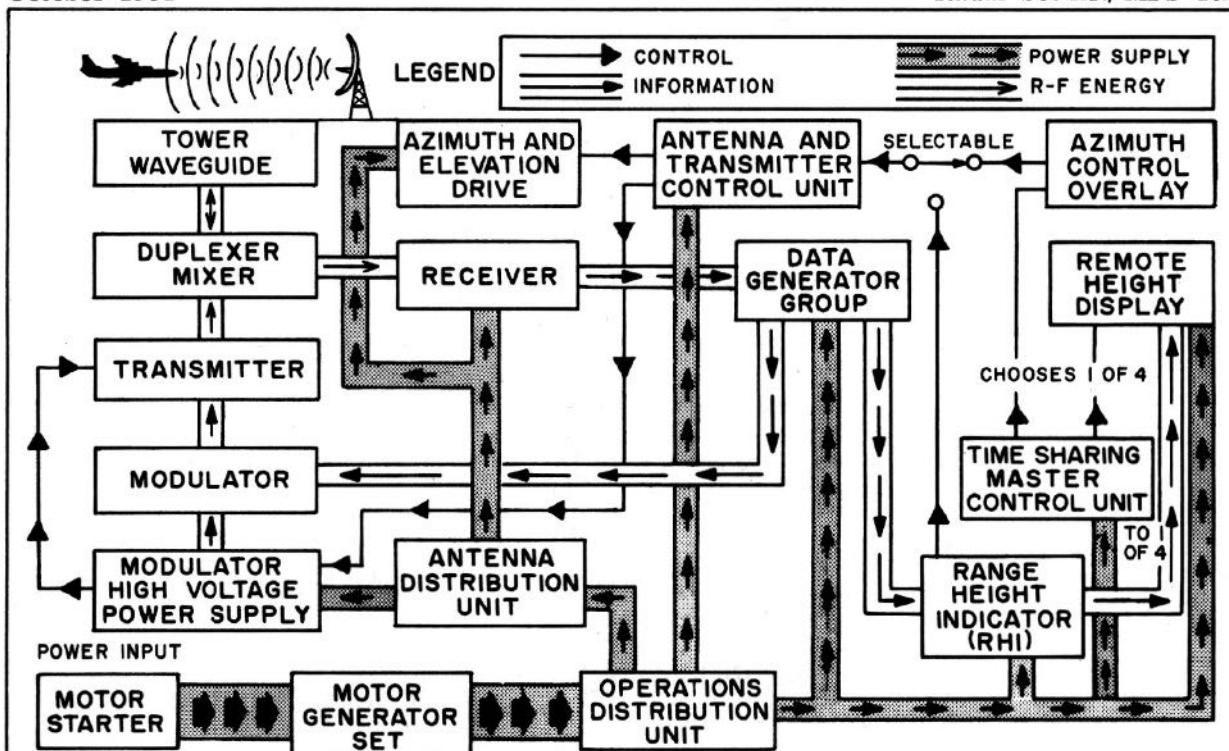
23. Spare parts pallet
24. Transit cases
25. Airlift pallet
26. Operations equipment
27. Cable and reels pallet
28. Cable reels
29. Cable storage drum
30. "A" frame
31. Trailer-mounted generator

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# RADAR SET AN/MPS-16A

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Radar Set AN/MPS-16A



Radar Set AN/MPS-16A, Block Diagram

OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS	
<p><b>Use:</b> The AN/MPS-16A is a mobile height finding radar set which supplements a search radar installation by providing it with accurate information. Thus, the AN/MPS-16A permits more efficient aircraft control and ground controlled interception.</p> <p><b>Used with:</b> Indicator Group AN/UPA-25. Radar Set AN/MPS-11A</p> <p><b>Installation:</b> Transportable, may be air-lifted by six type HUS helicopters.</p>	<p><b>Transmitter:</b></p> <p>Frequency: 5280 MC. Pulse rate: 300-364 PPS. Pulse width: 2.5 usec. Duty cycle: 0.001. Power output: 1 megawatt peak.</p> <p><b>Receiver:</b></p> <p>IF: 30 MC. IF bandwidth: 0.5 MC.</p> <p><b>Antenna gain:</b> 43 db.</p> <p><b>Height determination:</b> 95,000 feet.</p> <p><b>Range scales:</b> 0-100 and 200 nautical miles.</p>	
SIMILAR EQUIPMENTS	PHYSICAL CHARACTERISTICS	
	Unit	Overall Weight (in lbs)
	AN/MPS-16	2,512 (truck and trailer mounted)
		Cubic Feet
		15,259 (crated)



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PUBLICATIONS

D/L VOL I, Indicator Group AN/UPA-25, Dec 56.	SNL G-249 ORD 8 V10, Winterization Equipment M37, Feb 55.
LO 9-8022, Lubrication Order, Aug 57.	SNL G-742 ORD 8, Field and Depot Maint Allowances, Sep 57.
LO 9-8226, Trailer 1-1/2 Ton 2 Wheel, Nov 54.	SNL G-742 ORD 9, List of all Parts, Jan 55.
MI-00724A-25/1, Radar Set AN/MPS-16A, Aug 61.	SNL G-754, ORD 7-8, Trailer Cargo M104, Sep 56.
MI-00724A-35/2, Radar Set AN/MPS-16A, Aug 61.	SNL G-754 ORD 9, Chassis Trailer M103A1 M104A1, Dec 54.
MI-00724A-35/3, Proper Biasing of V-5106, Oct 61.	SNL G-754 ORD 9, Chassis Trailer M103A1 M104A1, Feb 55, Ch 1.
NAVMC Elect 2010, Instr Book PU-344/G.	SNL J-16 ORD 6, Tool Set Field Maint Depot Maint, Apr 55.
NAVMC ELECT 2028, Radar Set AN/MPS-16A Mar 60.	TB ORD 245, STD/Proced Dep O/Haul Ord Tank-Auto, Aug 61.
NAVMC ELECT 2031, Instruction Book AN/UPM-9B, Dec 58.	TB ORD 392, Int Lub New Rebuilt Gas Eng B Use, Sep 60.
NAVMC ELECT 2045, Generator Set Die Eng PU-344A/G, Oct 59.	TB ORD 460, Liq Cool Eng-Equip Clean Drain Hole, Jul 52.
NAVSHIPS 91994, Indicator Group AN/UPA-25 Jul 53.	TB ORD 485, M Models Servicing Data Plate Corr, Jan 53.
RPL 01433A, Test Set Radar AN/UPM-9B, May 59.	TB ORD 524, Installed Metal Tanks Clean-Preserv, Jun 53.
SIG M8, Diesel Engine PU-344/G, Aug 56.	TB ORD 616, Tact-Comm Mover-Trlrs Interveh Conn, Aug 56.
SIG M8, Indicator Group AN/UPA-25, Dec 53.	TB 9-248, Rubber Preserv Descript-Application, Sep 58.
SIG M8 SUPP, Indicator Group AN/UPA-25, Apr 57.	TB 9-265, Discontinuance Red Paint Mk Lub Pts, Dec 58.
SL-3-00011C, Multimeter TS-352B/U, Jun 61	TB 9-282, Combat Veh Protect Insul Comm Equip, Sep 59.
SL-3-00019, Test Set Semicond TS-268/U A Thru E, Mar 61.	TB 9-300-1/1, Combat Veh Insp Care Pres Our Stor, May 60.
SL-3-00262A, Generator Set, Diesel Eng PU-344/G, Sep 60.	TB 9-300-1/1, Combat Veh Insp Care Pres Our Stor, Nov 61, Ch 1.
SL-3-00671A, Tool Kit Fld Maint 3 Ech Spcl Basic, Apr 60.	TB 9-343, Ord Veh Install-Use Overhaul Plates, Apr 60.
SL-3-00682A, Tool Kit Field Maint 3 Ech Supp Gov, Apr 60.	TB 9-819-16, Correction of Loose Vibration Damp, Mar 53.
SL-3-01496A, Tool Kit Field Maint 4 Ech Supp Gov, Apr 60.	TB 9-1859-3, Time Schedule Guide, Mar 53.
SL-3-01502A, Tool Kit Org M 2nd Ech Spcl Set B, Apr 60.	TB 9-1859-3, Time Schedule Guide, Ch 1.
SL-4-00019, Crystal Rectifier TS-268/U A Thru E, Dec 60.	TB 9-1870-1/1, Care Pneumatic Tires and Inner Tube, Jul 56.
SL-4-00020, Test Sets Elect Tube TV-7, A, B, D/U, Jul 61.	TB 9-1870-1/2, Pneum Tires Tubes Flaps Inst Unserv, Feb 57.
SL-4-00262B, Generator Set D/E Trlr Mt PU-344A/G, Sep 60.	TB 9-2300-206-15, Test-Rebuild 100 amp 28V Gen System, Nov 58.
SL-4-00262B, Generator Set D/E Trlr Mt PU-344A/G, Aug 61, Ch 1.	TB 9-2300-228-20, Trouble Shoot F/Ins Cluster Wiring, Jul 60.
SL-4-00262B, Generator Set D/E Trlr Mt PU-344A/G, Nov 61, Ch 2.	TB 9-2855-8, Installation of Personnel Heater Kt, Jul 54.
SL-4-00724A, Radar Set AN/MPS-16A, Jan 60	
SL-4-00724A, Radar Set AN/MPS-16A, Jun 61	

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TB 9-2855-9, Installation of Power Plant Heater, Jan 55.	TM 9-8000, Principles of Automotive Vehicles, Jan 56.
TB 9-2855-10, Installation of Hardtop Close Kit, Jul 53.	TM 9-8022, Operation and Organizational Maint, Dec 54.
TB 9-2855-41, Installation of Personnel Heater Kt, Dec 56.	TM 9-8022, Operation and Organizational Maint, Ch 3.
TB 9-8022-22, 2-1/2T 6x6 M Series Inst Thermostat, Apr 55.	TM 9-8022, Operation and Organizational Maint, Oct 58, Ch 4.
TB 9-8022-26, 2-1/2T M Series Trks Inst Air Gov, Nov 56.	TM 9-8022, Operation and Organizational Maint, Ch 5.
TB 11-5083-1, Test Data TV-7, A, B, D/U, Oct 57.	TM 9-8022, Operation and Organizational Maint, Ch 6.
TB 11-5083-1, Test Data TV-7, A, B, D/U, Dec 58, Ch 1.	TM 9-8023-1, Ord Maint Eng Clutch 2-1/2T 6x6 Trk, Mar 57.
TB 11-5083-1, Test Data TV-7, A, B, D/U, Apr 59, Ch 2.	TM 9-8023-1, Ord Maint Eng Clutch 2-1/2T 6x6 Trk, Ch 1.
TB 11-5083-1, Test Data TV-7, A, B, D/U, Feb 60, Ch 3.	TM 9-8023-2, Ord Maint Pwr Train Cab and Chassis, Mar 56.
TB 11-5083-1, Test Data TV-7, A, B, D/U, Jun 60, Ch 4.	TM 9-8023-2, Ord Maint Pwr Train Cab and Chassis.
TI-00724A-35/1, Replace Resistors Radar AN/MPS-16A, Sep 61.	TM 9-8023-3, Body and Auxiliary Equipment, May 50.
TM 9-207, Oper-Maint Ordmatl in Extreme Cold, Sep 59.	TM 9-8226, Oper Org Maint Ord Fld Depot Maint, Apr 55.
TM 9-236, Military Tactical Vehicles, Sep 60.	TM 9-8226, Oper Org Maint Ord Fld Depot Maint, Ch 1.
TM 9-1825B, Electrical Equipment Auto-Lite, Nov 52.	TM 9-8226, Oper Org Maint Ord Fld Depot Maint, Ch 2.
TM 9-1825E, Electrical Equipment, Aug 52.	TM 9-8226, Oper Org Maint Ord Fld Depot Maint, Ch 3.
TM 9-1827A, Power Brake Sys Bendix-Westinghouse, Feb 53.	TM 9-8615, Steering Gears, Jun 53.
TM 9-1827C, Brake-Misc Equip Wagner-Lockhead, Jan 53.	TM 9-8617, Winches Pwr Takeoff Divider Hyd Eq, May 55.
TM 9-1828A, Fuel Pumps, Dec 52.	TM 9-8621, Power Train Components, Dec 53.
TM 9-1828A, Fuel Pumps, Ch 1.	TM 9-8623, Axles and Transfers, Apr 54.
TM 9-1829A, Ord Maint Speedometers Tachometers, Apr 44.	TM 9-8623, Axles and Transfers, Ch 1.
TM 9-1870-1, Care and Maint of Pneumatic Tires, Feb 55.	TM 9-8627, Electrical Equipment Delco-Remy, Jun 53.
TM 9-1870-1, Care and Maint of Pneumatic Tires, Ch 1.	TM 9-8627, Electrical Equipment Delco-Remy, Ch 1.
TM 9-2320-209-20P, Organizational Repair Prts Sp Tools, Apr 59.	TM 9-8647, Carburetors, Aug 58.
TM 9-2320-209-20P, Organizational Repair Prts Sp Tools, Ch 1.	TM 9-8662, Fuel Burn Heat F Winter Equipment, Mar 54.
TM 9-2853, Prep Ord Mtl F Deep Water Fording, Jul 45.	TM 10-500-20, Air Dly of Supp Equip of Truck M34, Nov 58.
TM 9-2853, Prep Ord Mtl F Deep Water Fording, Ch 1.	TM 10-500-20, Air Dly of Supp Equip of Truck M 34, Ch 1.
TM 9-6140-200-15, Oper-Org F-D Maint Stor Bat Lead-Ac, Jul 58.	TM 11-1242, Crystal Rectifier TS-268/U A Thru E, Sep 52.
	TM 11-1242, Crystal Rectifier TS-268/U A Thru E, Dec 54, Ch 1.

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TM 11-1242, Crystal Rectifier TS-268/U  
A Thru E, Jan 57, Ch 2.  
TM 11-5527, Multimeters TS-352-A-B/U,  
Oct 56.  
TM 11-5527, Multimeters TS-352-A-B/U,  
Feb 57, Ch 1.  
TM 11-5527, Multimeters TS-352-A-B/U,  
Dec 57, Ch 2.  
TM 21-300, Driver Selection and Training,  
Dec 58.  
TM 21-305, Manual for Wheeled Vehicle  
Driver, Dec 56.  
TM 21-305, Manual for Wheeled Vehicle  
Driver, Ch 1.

TM 11240-1, USMC TM Tactical Mt Veh  
Prev Maint, Feb 61.  
TO 31P3-2MPS16-1, Operating Instructions  
AN/MPS-16-A, Jul 58.  
TO 31P3-2MPS16-2, Servicing Instructions  
AN/MPS-16, A, Apr 60.  
TO 31P3-2MPS16-3, Instructions AN/MPS-16,  
16A, Mar 60.  
TO 31P3-2MPS16-4, Illust Parts Breakdown  
AN/MPS-16, A, Jan 57.  
TO 31P3-2MPS16-5, Installation Instruct  
AN/MPS-16, A, Apr 60.  
WC-31P3-2MPS16-6, Work Card Set  
AN/MPS-16, B, Aug 60.

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MAINTENANCE DATA					
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions	
		Preferred	Alternate		
Alignment and adjustment procedures	Voltmeter: 65.4 to 109 VAC	AN/PSM-3	AN/PSM-4A	TO 31P3-2MPS16-6, Section II.	
	VTVM: 0 to 180 VAC and 0 to 123 VDC	TS-505/U	ME-25( )/U		
	Oscilloscope	AN/USM-24()	AN/USM-32		
	Signal generator: 5280 MC	AN/URM-52			
Organizational Maintenance	Pulse generator	AN/UPM-15		TO.31P3-2MPS16-2 Paragraphs 5-5 through 5-19.	
	Signal Generator 5200 MC	AN/URM-52			
	Oscilloscope	AN/USM-24	AN/USM-137*		Paragraphs 5-73 through 5-85.
Field Maintenance	Voltmeter 65.4 to 109 VAC	AN/PSM-3	AN/PSM-4A	TO.31P3-2MPS 16-2 Paragraphs 6-13 through 6-66.	
	VTVM 3 to 4 VAC	TS-505/U	ME-25( )/U		
	VTVM 350 VDC	TS-505/U	ME-25( )/U		
	Multimeter 100 ua	AN/PSM-6	AN/PSM-4A		
	Signal Generator 5200 MC	AN/URM-52			
	Oscilloscope	AN/USM-24()	AN/USM-137*		
	Pulse Generator	AN/UPM-15			
	Spectrum Analyzer 5280 MC	AN/UPM-17	AN/UPM-9B		
	*Non T/A item				

RADAR SET AN/MPS-16A

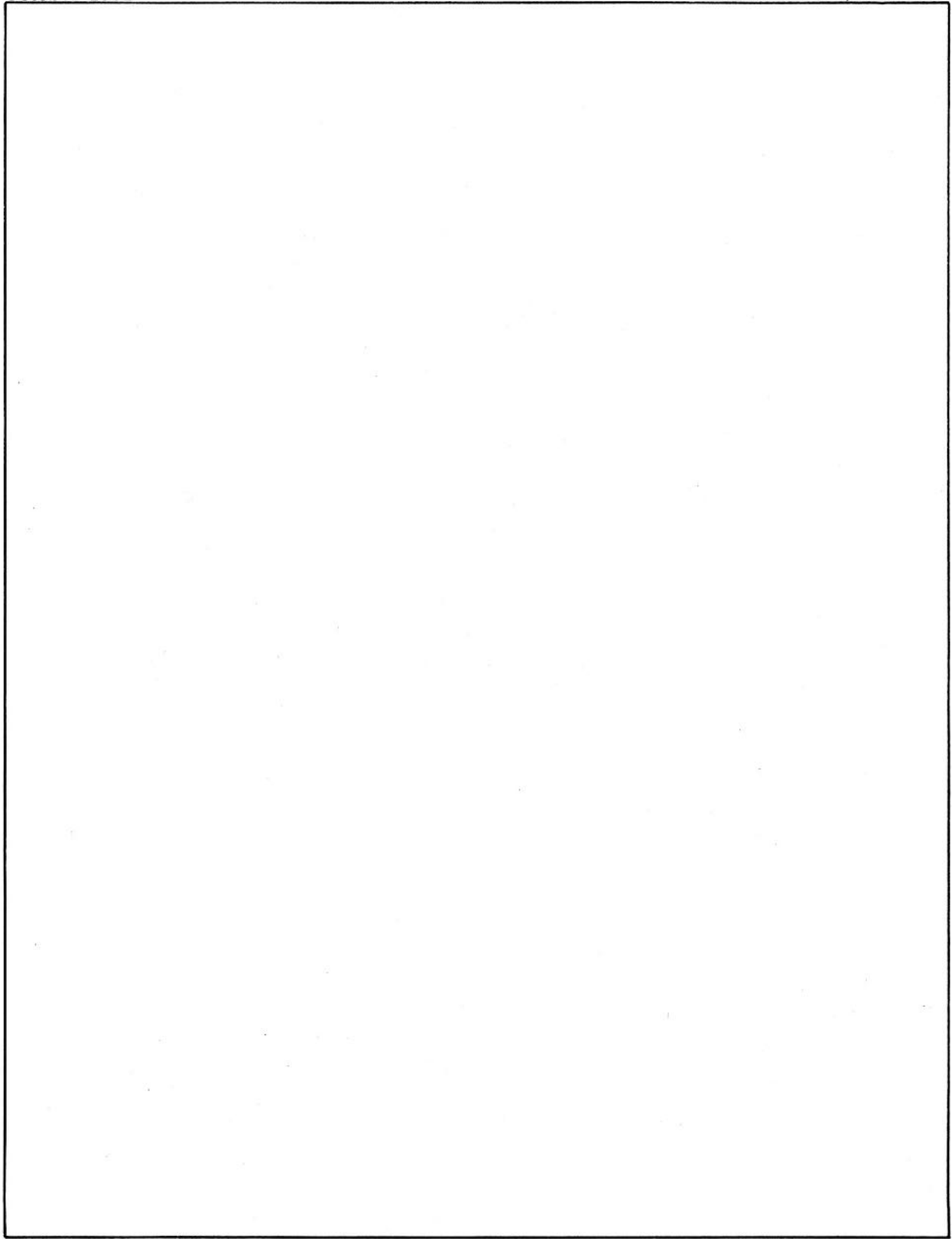
Revised  
April 1962

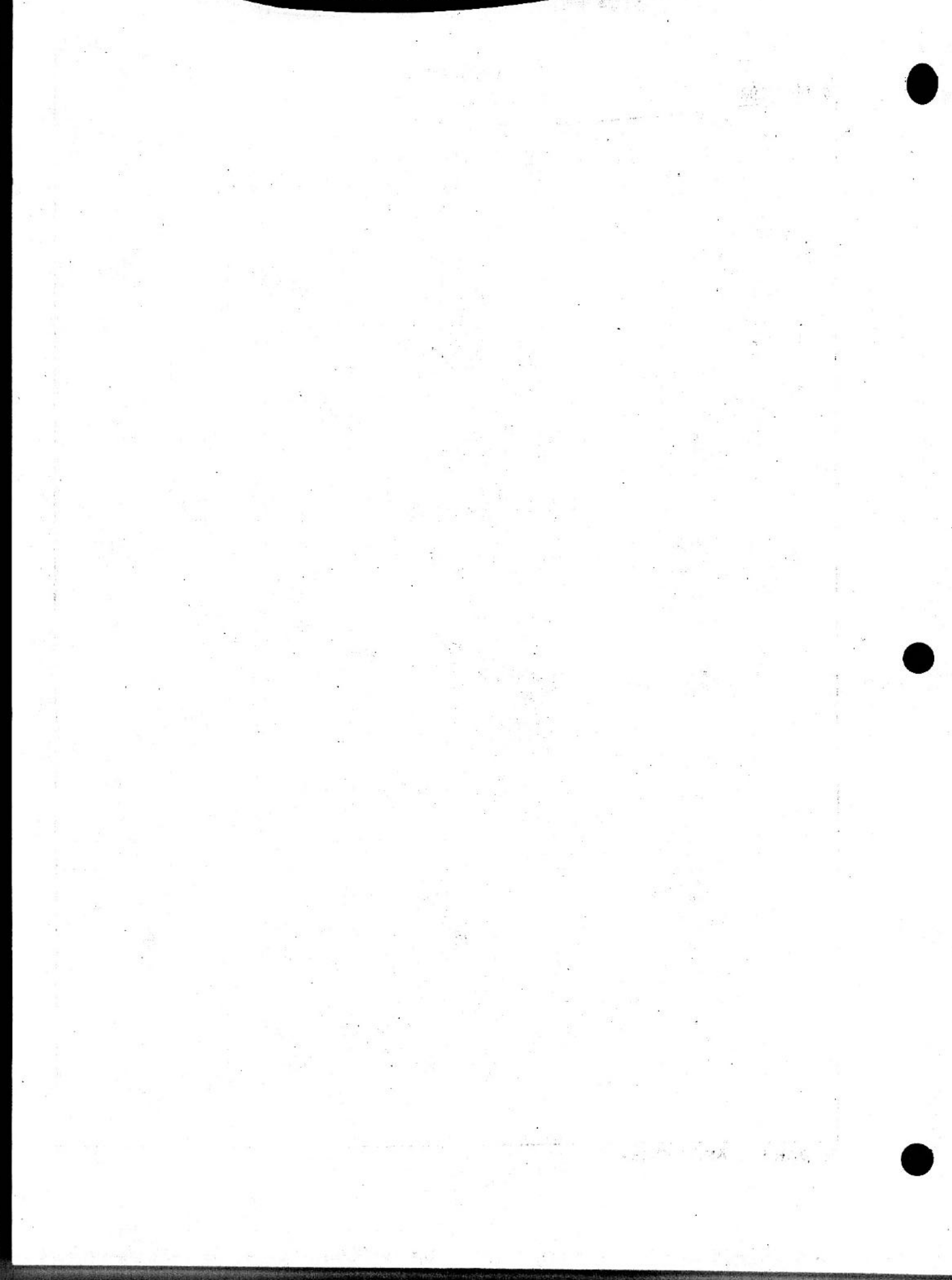
Radar Set AN/MPS-16A

EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
MCO 2005.54 Sup 3A: Improvement of angle marks.	OA-1232/MPS-16	Resistor R6206 is replaced by a 1-megohm resistor.
MCO 2005.54 Sup 4: To eliminate erratic operation.	MX-2082/MPS-16	Removal of lead pencil writing on the Bolometer network.
MI-00724A-25/1: Increased life of Transformer T-5751 and Relay K-1501.	AN/MPS-16A	All four sets of contracts of Relay K-1501 are paralalled. Resistor R-5757 soldered directly from Transformer T-5751 to Capacitor G-5650.
MI-00724A-35/2: Modification of forward side holding device.	AN/MPS-16A	Installation of a new lifting fixture.
MI-00724A-35/3: Proper biasing of V-5106.	MX-2068/MPS-16	Resistor R-5121 changed from a value of 470 K-ohms to 560 K-ohms.

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Radar Set AN/MPS-16A



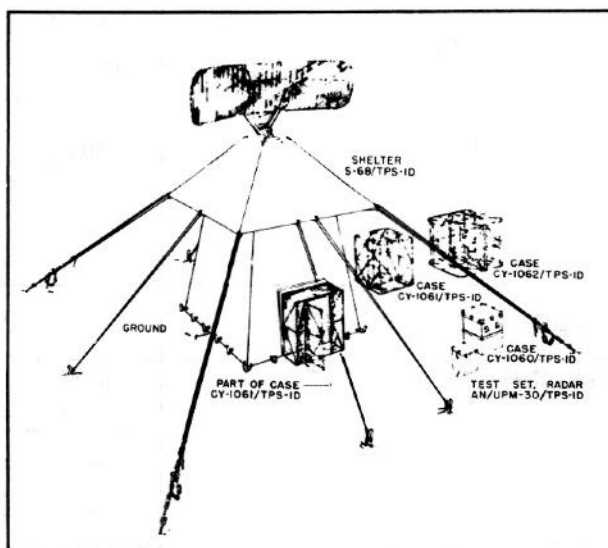
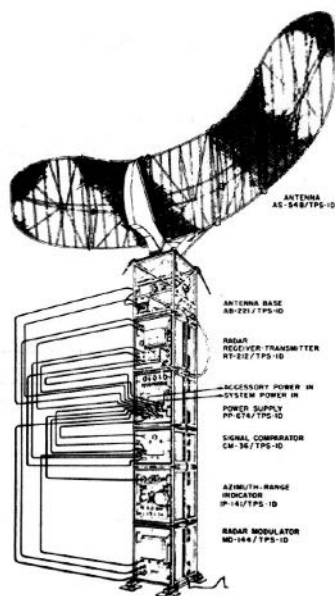


# RADAR SET AN/TPS-15

October 1961

Radar Set AN/TPS-15

GENERAL DATA	MAJOR UNITS
<p>F. S. N: 5840-505-0010                      ID Number: 00101A                      Function: Aircraft detection.                      Manufacturer: Raytheon Company,                      Lexington, Mass.</p> <p>Contracts: NObsr 64152 (1714)                      NOm 61144</p> <p>Approximate price: \$51,000.00                      Recommended operational checkout interval: <u>DAILY</u></p>	<ul style="list-style-type: none"> <li>(1) Mounting MT-960/TPS-1D</li> <li>(1) Modulator MD-144/TPS-1D</li> <li>(1) Azimuth Range Indicator IP-141/TPS-1D</li> <li>(1) Signal Comparator CM-36/TPS-1D</li> <li>(1) Power Supply PP-674/TPS-1D</li> <li>(1) Receiver-Transmitter RT-212/TPS-1D</li> <li>(1) Antenna Base AB-221/TPS-1D</li> <li>(1) Antenna AS-548/TPS-1D</li> <li>(1) Test Set AN/UPM-30</li> <li>(1) Shelter SB-68/TPS-1D</li> <li>(1) Case CY-1060/TPS-1D</li> <li>(1) Case CY-1061/TPS-1D</li> <li>(1) Case CY-1062/TPS-1D</li> <li>(1) Case CY-1297/TPS-1D</li> <li>(1) Generator Set PU-254/U</li> <li>(1) Interrogator Set AN/TPX-17A</li> <li>(1) Test Set AN/UPM-6B</li> </ul>



Radar Set AN/TPS-15.



RADAR SET AN/TPS-15

Radar Set AN/TPS-15

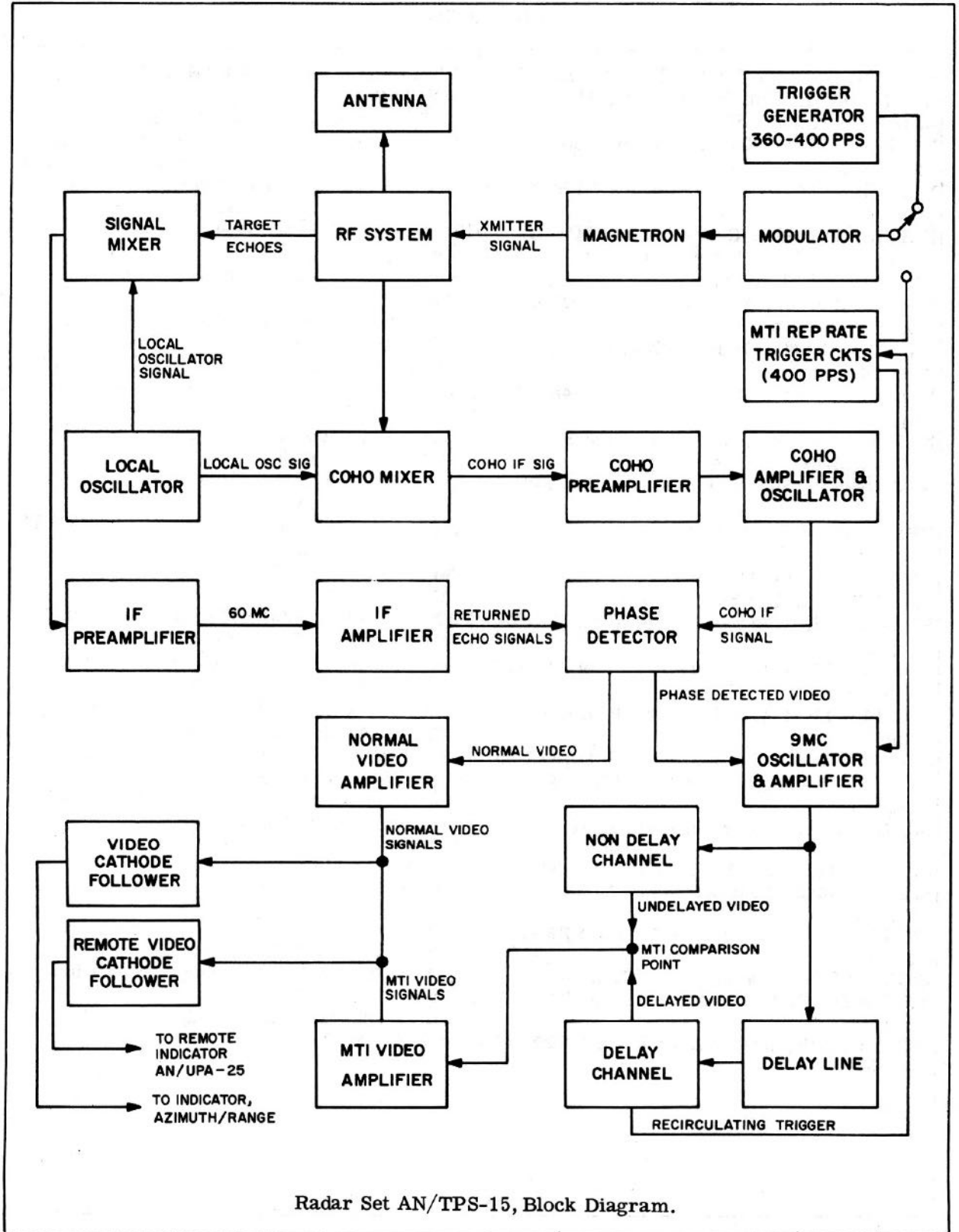
October 1961

OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS		
<p>Use: Radio Set AN/TPS-15 is a high-power transportable air search radar equipment for use in detecting aircraft and other objects at ranges up to 160 nautical miles. It is designed for ground base operation either in the field or at a fixed position. At a fixed installation, the units may be arranged as desired at the operating position with the Antenna and Antenna Base Unit installed remotely up to a distance of 150 feet. Used with:</p> <p>Installation: Transportable.</p>	<p>Type of presentation: A and PPI.</p> <p>Frequency range: 1220-1350 MC.</p> <p>Wavelength: 24.6-22.2 CM.</p> <p>Peak power output: 500 KW.</p> <p>Average power: 500 watts.</p> <p>Pulse rate: 380 nominal, adjustable from 360 to 400 PPS (normal radar operation only).</p> <p>Duty cycle: .001%.</p> <p>Pulse width: 2.0 microseconds.</p> <p>Range accuracy: Within 3% of the range +1 nautical mile.</p> <p>Azimuth accuracy: ± 1%.</p> <p>Antenna radiation pattern:                      Horizontal: 3.5° to 4.5°.                      Vertical: 11° to 13°.</p> <p>Intermediate frequency: 60 MC.</p> <p>IF bandwidth: 5 MC.</p> <p>Receiver noise figure: 11.7 db (nominal).</p> <p>Power required:                      Voltage: 115 V ± 5%, 400-cycle ± 4%, single phase.                      Wattage: 7.5 KW (includes 5-KW system power and 2.5-KW heater power).</p>		
SIMILAR EQUIPMENTS	PHYSICAL CHARACTERISTICS		
<p>Radar Set AN/TPS-1D.</p>	<p>Unit</p> <hr/> <p>AN/TPS-15</p> <hr/>	<p>Overall Weight (in lbs)</p> <hr/> <p>7503 (in 13 packages)</p> <hr/>	<p>Cubic Feet</p> <hr/> <p>623 (crated)</p> <hr/>

RADAR SET AN/TPS-15

October 1961

Radar Set AN/TPS-15



Radar Set AN/TPS-15, Block Diagram.

## PUBLICATIONS

<p>D/L VOL II, Radar Set AN/TPS-15, Jun 57.  LO 11-1167-1, Radio Set AN/TPS-1D, AB-221/TPS-1D, Jan 58.  NAVMC ELECT 2008, Instruction Book ME-25A/U.  NAVSHIPS 91467A, Radar Set AN/UPM-6A, 6B, Oct 51.  NAVSHIPS 91579B, Radar Set AN/TPS-1D.  NAVSHIPS 91785A, Interrogator Set AN/TPX-17, 17A, 18, Nov 53.  NAVSHIPS 92051, Multimeter AN/PSM-4A, Oct 53.  NAVSHIPS 92360, Test Set TS-172A/Up, Oct 54.  NAVSHIPS 95343, Oscilloscope TS-34A/AP, Apr 54.  NAVSHIPS 98506, FC-2 Radar Test Set AN/UPM-6B, Aug 54.  NAVSHIPS 98650, FC 9 Radio Set AN/TPS-1D.  RPL 00004A INT, Multimeter ME-25A/U, Sep 58.  RPL 00101A, FC 11 Interrogator Set AN/TPS-1D, Dec 58.  RPL 01147B, Interrogator Set AN/TPX-17A, Sep 58.  RPL 01147C, FC-1 Interrogator Set AN/TPX-17B, Dec 58.  RPL 01240A, Field Change No 10 AN/TPS-1D, Apr 59.  SIG M8, FC 9 Radio Set AN/TPS-1D, Oct 55.  SIG M8, Interrogator Set AN/TPX-17A, Aug 55.  SIG M8, Interrogator Set AN/TPX-17B, Apr 56.  SIG M8, Radar Set AN/TPS-15, Apr 55.  SIG M8, Radar Test Set AN/UPM-6A, 6B, Oct 55.  SIG M8 FC-2, Radar Test Set AN/UPM-6B, Jul 58.  SIG M8 SUPP, Flashlight TL-122, Nov 56.  SIG M8 SUPP, Interrogator Set AN/TPX-17A, Aug 57.  SIG M8 SUPP, Interrogator Set AN/TPX-17B, Jul 57.</p>	<p>SIG M8 SUPP, Radar Set AN/TPS-15, AN/TPS-1D FC-9, Sep 57.  SIG 7-8, Flashlight TL-122, Jan 55.  SIG 7-8, Test Set Radar AN/UPM-30, Aug 57.  SL-3-00004A, Multimeter ME-25A/U, Jan 61.  SL-3-00004A, Multimeter ME-25A/U, Apr 61.  SL-3-00091A, Multimeter AN/PSM-4A, Jan 61.  SL-3-00119A, Radar Test Set AN/UPM-6B, Oct 61.  SL-4-00091A, Multimeter AN/PSM-4A, Jul 61.  SL-4-02636, Coder Control KY-97, 97A, 97B/TPX, Dec 60.  TM 11-1262, Test Set TS-172A/UP, Oct 57.  TM 11-5128, Summation Bridge AN/URM-23 OP Serv, Feb 57.  TM 11-5840-203-15, Power Supply PP-674, A/TPS-1D, Jun 58.  TM 11-5840-203-20P, Power Supply PP-674, A/TPS-1D, Jun 60.  TM 11-5840-203-35P, Power Supply PP-674, A/TPS-1D, Jun 60.  TM 11-5840-225-12P, Modulators Radar MD 144, A/TPS-1D, Jun 60.  TM 11-5840-225-35P, Modulators Radar MD 144, A/TPS-1D, Jul 60.  TM 11-5840-230-10P, Signal Comparators CM-36, A/TPS-1D, Oct 59.  TM 11-5840-230-20P, Signal Comparators CM-36, A/TPS-1D, Dec 59.  TM 11-5840-230-35P, Signal Comparators CM-36, A/TPS-1D, Dec 59.  TM 11-5840-231-12P, Azimuth-Range Ind IP-141, A/TPS-1D, Jul 60.  TM 11-5840-231-35P, Azimuth-Range Ind IP-141, A/TPS-1D, Jul 60.  TM 11-6120-200-12P, Transformer, Variable Power TF-238/U, Jul 60.  TM 11-6120-200-35P, Transformer, Variable Power TF-238/U, Jul 60.  TM 11-6625-311-35P, Bridge Summation AN/URM-23, Jan 60.  TM 11-6625-311-12P, Bridge Summation AN/URM-23, Jan 60.</p>
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RADAR SET AN/TPS-15

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Radar Set AN/TPS-15

MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Operator's maintenance	No special tools or equipment required			NAVSHIPS 91579B, paragraphs 5-1 through 5-3.
Corrective maintenance	Oscilloscope	TS-239	AN/USM-24( ) TS-34( )/AP	NAVSHIPS 91579B, paragraphs 7-10 through 7-107.
	Signal generator: 9 to 60 MC	TS-452( )/U	AN/TRM-3	
	Signal generator: 60 MC	TS-497/URR	AN/URM-26( )	
	VTVM: 0 to 4 VDC	TS-375/U	TS-505/U	
	Multimeter: 0 to 300 VDC 0 to 200 VAC	AN/PSM-4A	TS-352( )/U	
	Echo box: 1280 to 1410 MC	TS-545/UP	TS-172A/AP AN/UPM-30	
	Dummy antenna	TS-235/UP		
	Wattmeter: 1000 milliwatts	AN/URM-23		
	Standing wavemeter	TS-130/UP		
	Signal generator: 1220 MC	TS-419/U	AN/URM-64	
	Pulse generator: 1000 CPS	AN/UPM-15	Lavoie Lab Type LA-592B	
	Bolometer mount	Polytech Research Type 612A		
	Standing wave indicator	TS-12AP		
Fluxmeter: 1200 to 1400 gauss	TS-15A/AP			
	* Non T/A item			NAVSHIPS 91579B, paragraphs 7-10 through 7-107.

## RADAR SET AN/TPS-15

Revised  
April 1962

Radar Set AN/TPS-15

EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
MCO 2005.25 Sup 2: Circuitry change in IP-141 to allow for proper operation with IFF.	IP-141/TPS-1D	22,000-ohm resistor added to plate circuit of V601. 1000-uufd capacitor connected from plate of V601 to plate V602.
MCO 2005.25 Sup 2 Ch 1: Pen and ink change to Sup 2.	AN/TPS-15	Change FSN-5905-120-8094 paragraph 7a, to 5905-195-6761.
MCO 2005.25 Sup 3: Prevention of damage to wiring.	RT-212/TPS-1D	Installation of a sheet of plastic 1/16 inch thick beneath C515.
MCO 2005.25 Sup 4: Lubrication of the Indicator.	IP-141/TPS-1D	Lubrication of worm gear 0-610 with aircraft grease.
MCO 2005.25 Sup 6: Field change 8.	AN/TPS-15 Serial Numbers 956 to 1075	R1315 and R2317 replaced with 220-ohm 1-watt resistors and R1321 and R2323 replaced with 68-ohm 1-watt resistors on AN/TPS-15 Serial 956. R536, 150 ohms, connected across pins 2 and 7, XV505.
MCO 2005.25 Sup 8: MTI alignment procedure.	AN/TPS-15	Consolidated step by step procedure for aligning the MTI.
MCO 2005.25 Sup 9: Installation of field change 9.	MD-144/TPS-1D	Addition of pre-trigger kit to the modulator.
MCO 2005.25 Sup 10: Installation of field change 11.	AN/TPS-1D	
MCO 2005.25 Sup 10 Ch 1: Installation of field change 11.	AN/TPS-1D	Pen and ink change to Sup 10.
MCO 2005.25 Sup 12: Lubricating oils to be used in gear case in antenna base.	AB-221/TPS-1D	Lubricating oil FSN-9150-240-2250 satisfactory for general use. Lubricating oil FSN-9150-257-5440 to be used at below freezing conditions.

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Radar Set AN/TPS-15

EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
MCO 2005. 25 Sup 13: Alternate synchro adjustment procedure.	AN/TPS-1D AN/TPS-1E	An alternate method for adjustment of the synchro system.
MCO 2005. 25 Sup 14: To improve the receiver noise figure.	RT-212/TPS-1D	Crystals 1N21B and 1N21C to be replaced with 1N21E.
MCO 2005. 25 Sup 15: Modification of local oscillator.	R-212/TPS-1D PP-674/TPS-1D	R521 8000-ohm resistor installed in lower right side of chassis on RT-212.
MCO 2005. 25 Sup 16: Correction of deficiency in field change 11.	CM-36/TPS-1D	Additional 40-ufd filter capacitor from junction of R3335 and 150 VDC to ground. Crystal 1N69 connected from grid of V3307 to ground. Variable resistor 10 K ohms connected from R3336 to cathode of V3305B.
MCO 2005. 25 Sup 17: Relocation of pulse delay trigger switch.	MD-144/TPS-1D MD-144A/TPS-1D	S1101 located in upper right hand corner of modulator front panel.

PUBLICATIONS

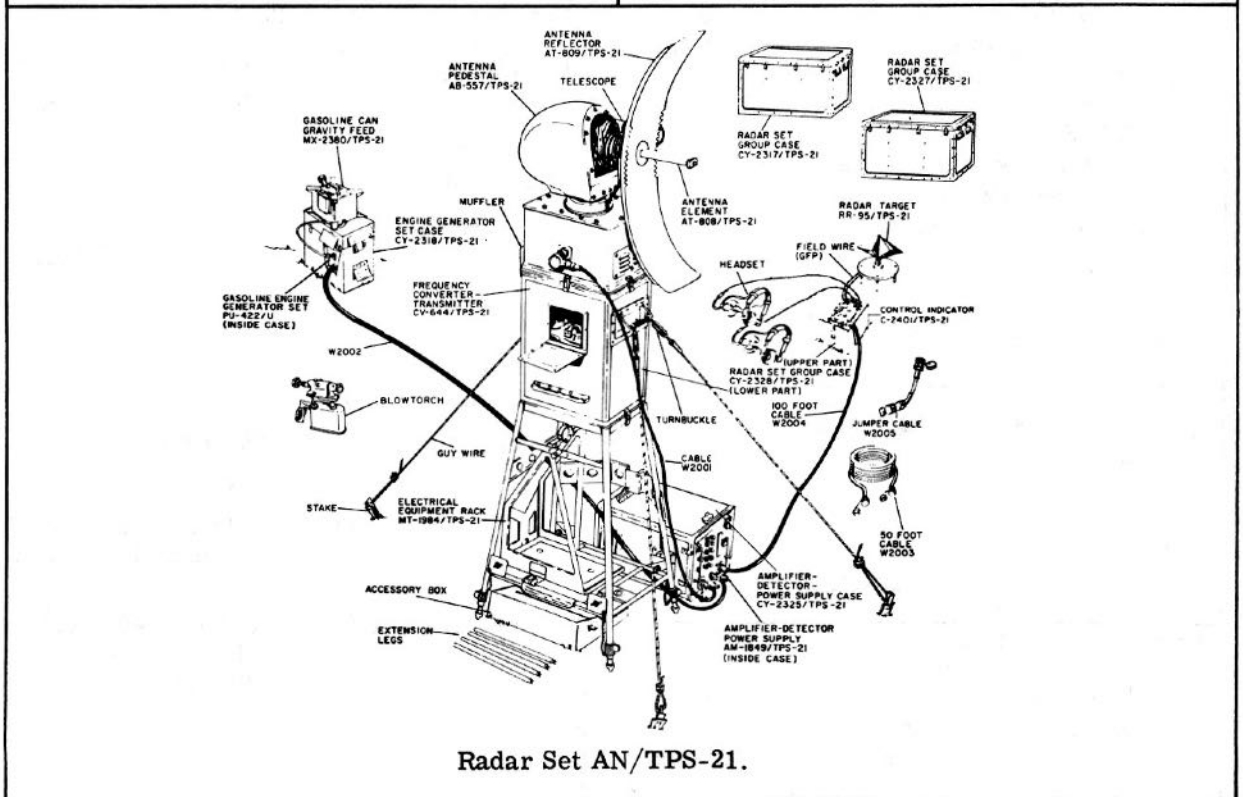
PUBLICATIONS	

# RADAR SET AN/TPS-21

October 1961

Radar Set AN/TPS-21

GENERAL DATA	MAJOR UNITS
<p>F. S. N: 5840-631-1089                      ID Number: 01436A                      Function: Searches for and detects moving ground targets.                      Manufacturer: Admiral Corp. Chicago, Ill.                      Contracts: NObsr 75312, 71883, and 81268.                      Approximate price: \$6,600.00                      Recommended operational checkout interval: <u>DAILY</u></p>	<ul style="list-style-type: none"> <li>(1) Frequency Converter Transmitter CV-644/TPS-21</li> <li>(1) Amplifier-Detector Power Supply AM-1849/TPS-21</li> <li>(1) Control Indicator C-2401/TPS-21</li> <li>(1) Antenna Pedestal AB-557/TPS-21</li> <li>(1) Antenna Reflector AT-809/TPS-21</li> <li>(1) Antenna Element AT-808/TPS-21</li> <li>(1) Gasoline Engine Generator Set PU-422/U</li> <li>(1) Electrical Equipment Rack MT1984/TPS-21</li> <li>(1) Radar Set Group Case CY-2328/TPS-21</li> <li>(1) Amplifier-Detector Power Supply Case CY-2325/TPS-21</li> <li>(1) Radar Set Group Case CY-2327/TPS-21</li> <li>(1) Radar Set Group Case CY-2317/TPS-21</li> <li>(1) Radar Set Group Case CY-2317/TPS-21</li> <li>(1) Radar Target RR-95/TPS-21</li> <li>(1) Engine Generator Set Case CY-2318/TPS-21</li> </ul>

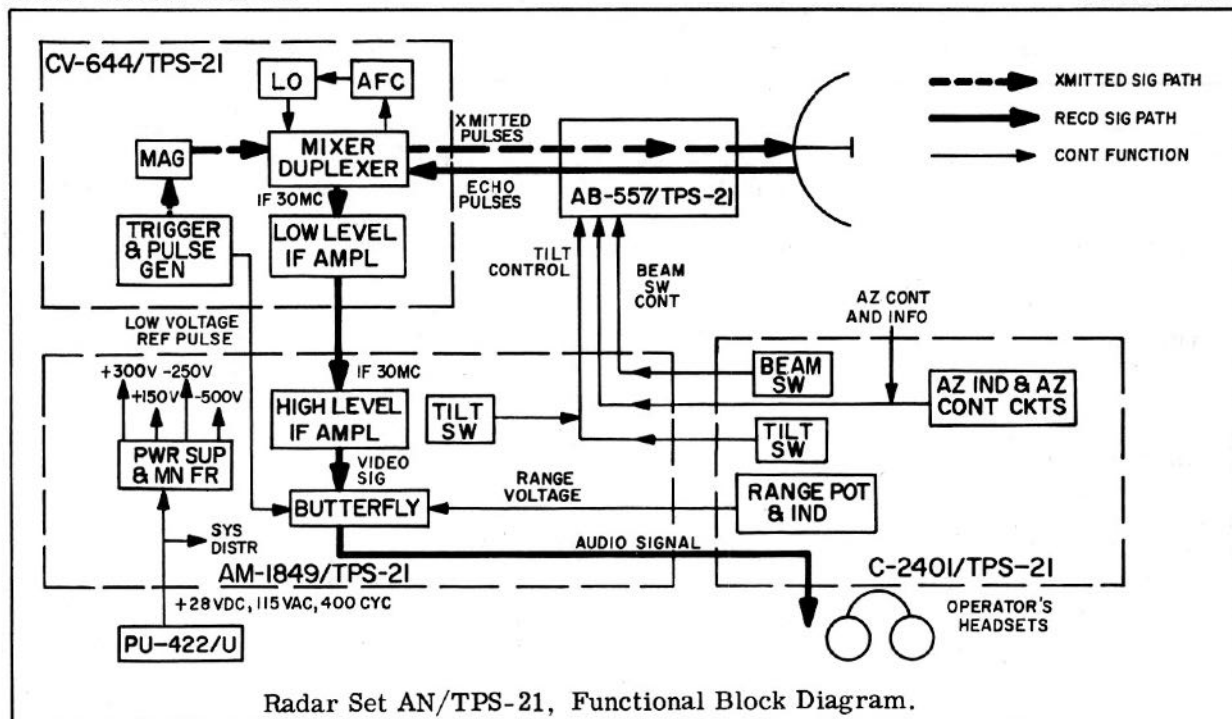




# RADAR SET AN/TPS-21

Radar Set AN/TPS-21

October 1961



OPERATIONAL CHARACTERISTICS			TECHNICAL CHARACTERISTICS	
<p><b>Use:</b> Radar Set AN/TPS-21 is a lightweight, portable battlefield surveillance equipment that will search for and detect moving ground targets. The range of Radar Set AN/TPS-21 is 100 to 20,000 yards. A characteristic audio signal with a frequency variation dependent upon the speed and direction of the moving target is the "on target" indication.</p> <p><b>Used with:</b></p> <p><b>Installation:</b> Ground/Transportable.</p>			<p><b>Frequency:</b> 9375 ± 30 MC.</p> <p><b>Frequency control:</b> Automatic, electronic.</p> <p><b>Type of emission:</b> Pulse-modulated RF.</p> <p><b>Transmitter bandwidth:</b> 5 MC.</p> <p><b>Local oscillator range:</b> 8500 to 10,000 MC.</p> <p><b>Average power output:</b> 2 to 4 watts.</p> <p><b>Peak power duration:</b> 4 to 7 KC, 0.4 usec.</p> <p><b>Repetition rate:</b> 1600 PPS.</p> <p><b>IF frequency:</b> 30 MC.</p> <p><b>Receiver sensitivity:</b> 98 dbm (minimum discernible signal).</p> <p><b>Power supply characteristics:</b> 115 VAC, 400 cycles, single phase, 28 VDC.</p>	
<b>SIMILAR EQUIPMENTS</b>				
<b>PHYSICAL CHARACTERISTICS</b>				
Unit	Overall Weight (in lbs)	Cubic Feet		
AN/TPS-21	523 (in 2 packages)	54 (crated)		

RADAR SET AN/TPS-21

Revised  
April 1962

Radar Set AN/TPS-21

PUBLICATIONS

NAVSHIPS 91635, IB Antenna Group  
AN/GPA-8, Apr 52  
NAVSHIPS 93318, Radar Set AN/TPS-21,  
Apr 59.  
NAVSHIPS 93318.32, PSS Radar Set  
AN/TPS-21, May 60  
NAVSHIPS 93318.42, MSB Radar Set  
AN/TPS-21, May 60

NAVSHIPS 93318.51, Maint Prints Radar  
Set AN/TPS-21  
SIG M8, Antenna An/GPA-8, Nov 52.  
SL-3-01436A, Radar Set AN/TPS-21, Apr 61.  
SL-4-01436A, Radar Set AN/TPS-21, Aug 60  
Ch 1 Jun 61, Ch 2 Mar 62.  
TI-01436A-25/1, Radar Set AN/TPS-21,  
Jan 62.

RADAR SET AN/TPS-21

Radar Set AN/TPS-21

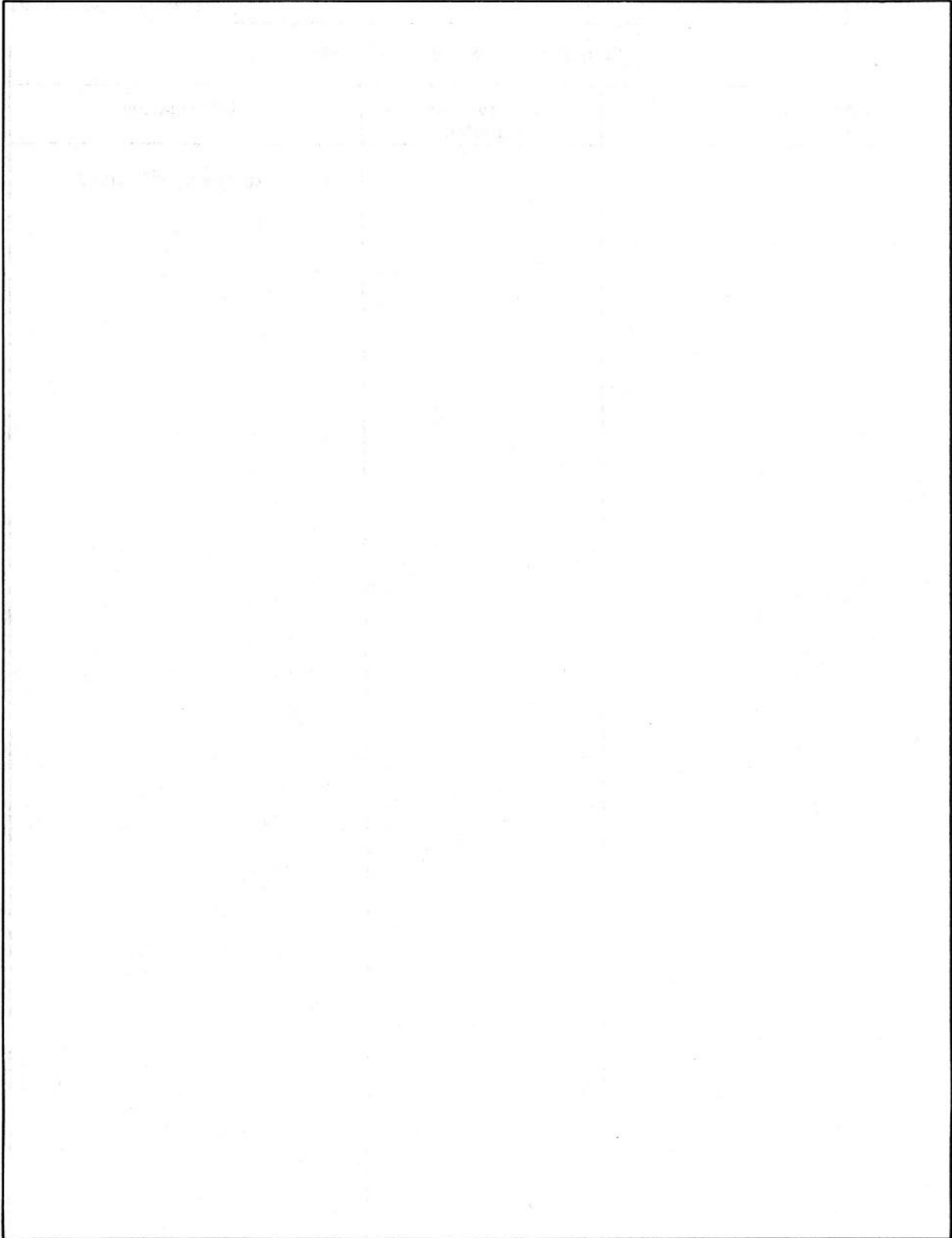
October 1961

MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Operator's maintenance	No special tools or equipment required			NAVSHIPS 93318, paragraphs 3-1 through 3-6.
Alignment and adjustment	Dummy load	TS-108/AP	TS-231A/AP*	NAVSHIPS 93318, paragraph 6-2.
	Multimeter: 150 to 300 VDC	ME-25A/U	TS-505/U	
	Audio oscillator: 1600 CPS	TS-382( )/U	LO-3	
	Range calibrator: 1600 PRF	TS-102A/AP	TS-573/UP*	
	Oscilloscope	AN/USM-24	AN/USM-32	
	Sweep generator: 30 MC	TS-452A/U		
	* Non T/A item.			

October 1961

Radar Set AN/TPS-21

EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
		No modifications authorized.

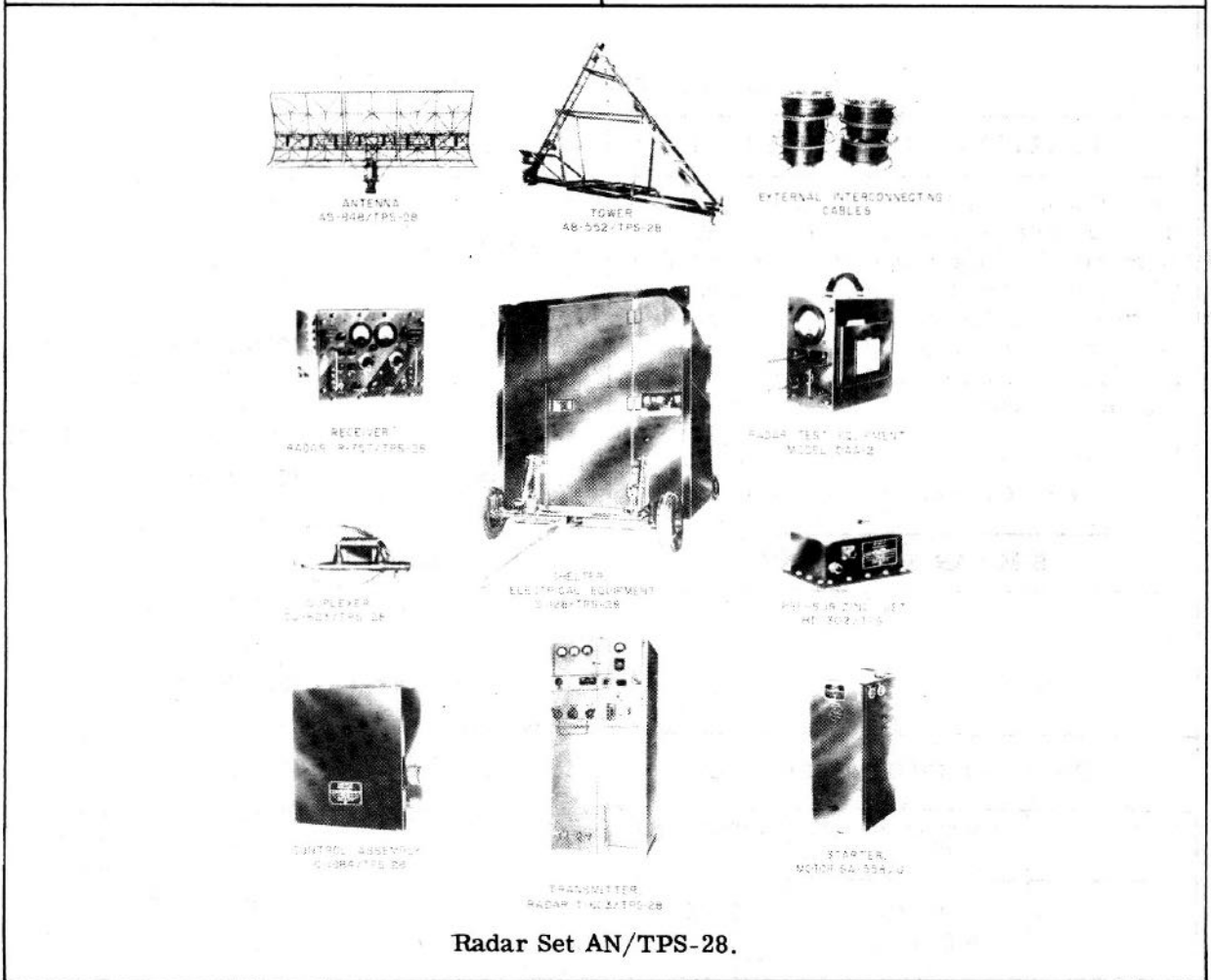


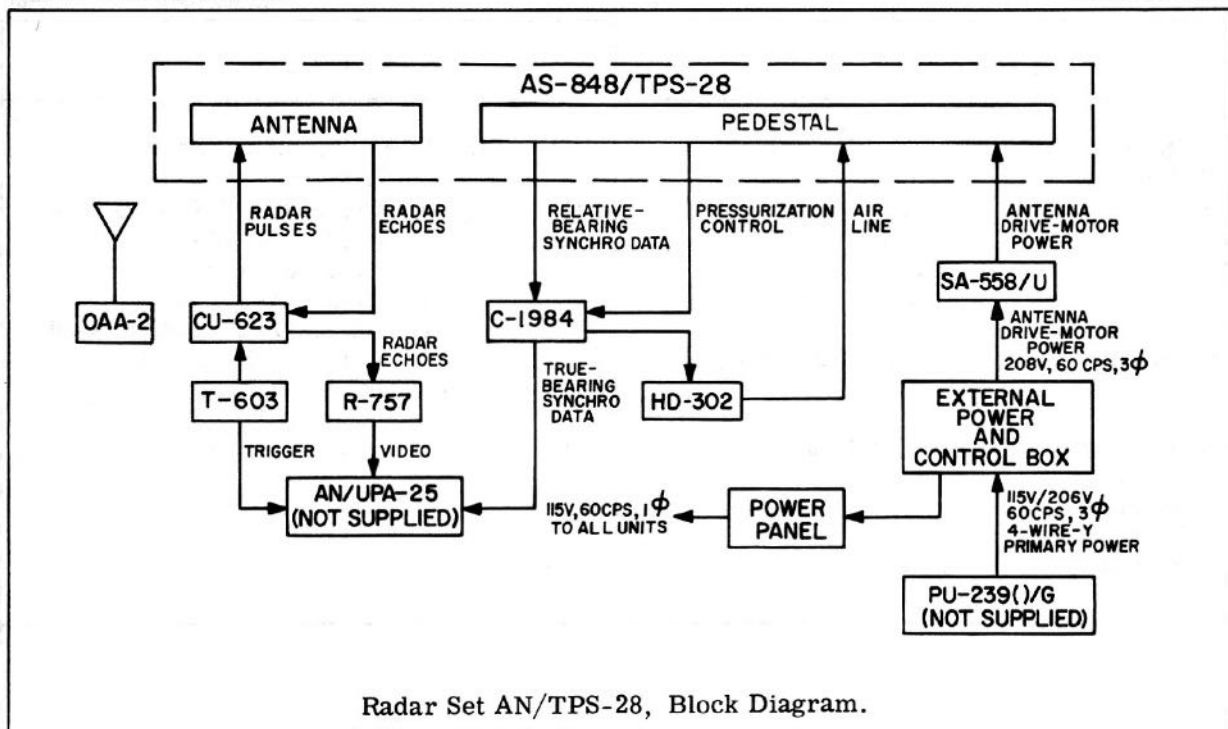
# RADAR SET AN/TPS-28

October 1961

Radar Set AN/TPS-28

GENERAL DATA	MAJOR UNITS
<p>F. S. N: 5840-581-2168                      ID Number: 00744A                      Function: Long range search radar.                      Manufacturer: Hazeltine Corp.                                        Little Neck, N. Y.                      Contracts: NObsr 71016 (863)</p> <p>Approximate price: \$38,000.00                      Recommended operational checkout interval: <u>DAILY</u></p>	<p>(1) Electrical Equipment Shelter S-128/TPS-28                      (1) Radar Transmitter T-603/TPS-28                      (1) Radar Receiver R-757/TPS-28                      (1) Duplexer CU-623/TPS-28                      (1) Motor Starter SA-558/U                      (1) Control Assembly C-1984/TPS-28                      (1) Pressurizing Set HD-302/TPS                      (1) Radar Test Equipment OAA-2                      (1) Antenna AS-848/TPS-28                      (1) Tower AB-552/TPS-28</p>





Radar Set AN/TPS-28, Block Diagram.

OPERATIONAL CHARACTERISTICS			TECHNICAL CHARACTERISTICS	
<p>Use: Radar Set AN/TPS-28 is a helicopter-transportable search radar set intended primarily for long-range detection and identification of aircraft at medium and high altitudes. Against surface targets, or aircraft at low altitudes, the maximum detection range is limited primarily by the type and size of target and the terrain conditions.</p> <p>Used with: Indicator Group AN/UPA-25.</p> <p>Installation: Ground/Transportable.</p>			<p>Frequency range: 210-225 MC.</p> <p>Transmitter bandwidth: 0.1 MC.</p> <p>Transmitter power output: 1000 KW peak (7.5 KV). 700 KW peak (6.25 KV). 450 KW peak (5.0 KV).</p> <p>Pulse rate: 170-190 PPS.</p> <p>Pulse width: 5 microseconds.</p> <p>Type of emission: Pulse modulated.</p> <p>Type of receiver: Superheterodyne.</p> <p>IF: 30 MC.</p> <p>LO frequency range: 230-255 MC.</p> <p>IF bandwidth: 330 KC.</p> <p>Antenna gain: 22 db.</p> <p>Power requirements: Diesel engine Generator Set PU-239()/G; 208 volts, 60 CPS, 3-phase, 4-wire wye.</p>	
SIMILAR EQUIPMENTS				
PHYSICAL CHARACTERISTICS				
Unit	Overall Weight (in lbs)	Cubic Feet		
AN/TPS-28	15643 (in 6 packages)	2168.6 (crated)		

Revised  
April 1962

Radar Set AN/TPS-28

## PUBLICATIONS

D/L VOL I, Indicator Group AM/UPA-25,  
Dec 56.

MI-00744A-25/1, Signal Comparator Radar  
AN/TPS-28, Feb 62.

NAVSHIPS 91994, Indicator Group AN/UPA-25  
Jul 53.

NAVSHIPS 93104, Radar Set AN/TPS-28,  
Nov 56.

NAVSHIPS 93104.51 Maint Prints Radar Set  
AN/TPS-28.

RPL 00258A Thru F, Generator Sets PU-239/G  
A Thru E, Apr 59, Ch 1 Jul 60, Ch 2 Nov 61.

RPL 00744A, Int Radar Set AN/TPS-28,  
Mar 59.

SIG-M8, Indicator Group AN/UPA-25, Dec 53.

SIG-M8, Supp Indicator Group AN/UPA-25,  
Apr 57.



RADAR SET AN/TPS-28

Radar Set AN/TPS-28

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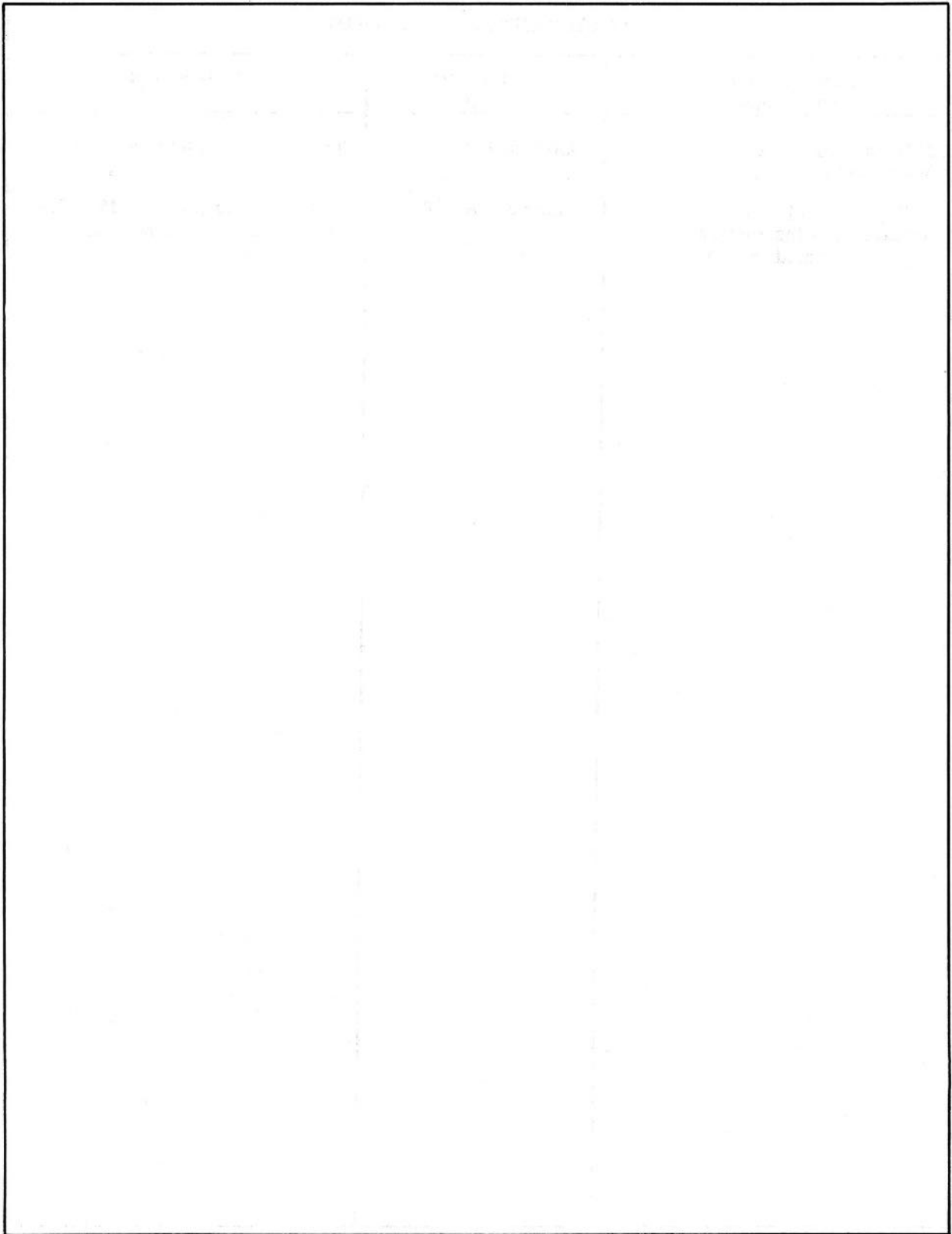
MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Operator's maintenance	No special tools or equipment required			NAVSHIPS 93104, paragraphs 5-1 and 5-2.
Corrective maintenance (adjustments)	Signal generator: 30 to 330 MC	AN/USM-16	AN/URM-26()	NAVSHIPS 93104, paragraphs 7-1 through 7-16.
	Oscilloscope	AN/USM-24()	OS-8/U	
	Ohmmeter	AN/PSM-4A	TS-352( )/U	
	Multimeter	ME-25( )/U	TS-505/U	

EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
<p>MCO 2005. 70 Sup 2: Wind loading data.</p> <p>MI-00744A-25/1 Installations instructions for signal comparator.</p>	<p>AS-848/TPS-28</p> <p>Radar Set AN/TPS-28.</p>	<p>Operational employment under various wind conditions.</p> <p>Signal Comparator CM-16/TPS-28 allows use of higher receiver gain settings.</p>

RADAR SET AN/TPS-28

Radar Set AN/TPS-28

October 1961



MASTER MAINTENANCE REFERENCE MANUAL

SECTION III - Index by Noun Nomenclature

April 1962

SECTION III: MISCELLANEOUS EQUIPMENT		
Item Description	Type Number	Pages
Alpha Survey Meter	AN/PDR-54	1-6
Battery Charger	PP-775A/U	1-6
Combat Information Centrals	AN/TSQ-5 and 6	1-7
Direction Finder Set	AN/MRD-15	1-9
Direction Finder Set	AN/PRD-1	1-6
Direction Finder Set	AN/TRD-12	1-6
Distance Measuring Set	AN/TRQ-19	1-7
Electronics Countermeasure Set	AN/MLQ-16	1-10
Generator Set	PU-239( )/G	1-7
Generator Set	PU-296/G and A/G	1-6
Generator Set	PU-344( )/G	1-6
Generator Set	PU-345( )/G	1-6
Generator Set	PU-346( )/G	1-6
Generator Set	PU-347( )/G	1-6
Generator Set	PU-348( )/G	1-6
Generator Set	PU-454( )/G	1-6
Generator Set	PU-482( )/M	1-6
Generator Set	PU-493( )/M	1-6
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Mine Detecting Set	AN/PRS-3 and 3A	1-6
Mine Detecting Set	AN/PRS-4	1-6
Panoramic Indicator	RCX	1-6
Power Unit	PE-75( )	1-6
Radio Intercept Control Set	AN/MTQ-3	1-9
Radio Interference Measuring Set	AN/PRM-1A	1-6
Radio Interference Measuring Set	AN/URM-47	1-7
Radiosonde Recorder	AN/TMQ-5A	1-6
Rawin Set	AN/GMD-1	1-6
Sound Recorder Reproducer Set	AN/TNH-7	1-7
Wind Measuring Set	AN/MMQ-1	1-6

MASTER MAINTENANCE REFERENCE MANUAL

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SECTION III - Index by JETDS Nomenclature

SECTION III: MISCELLANEOUS EQUIPMENT

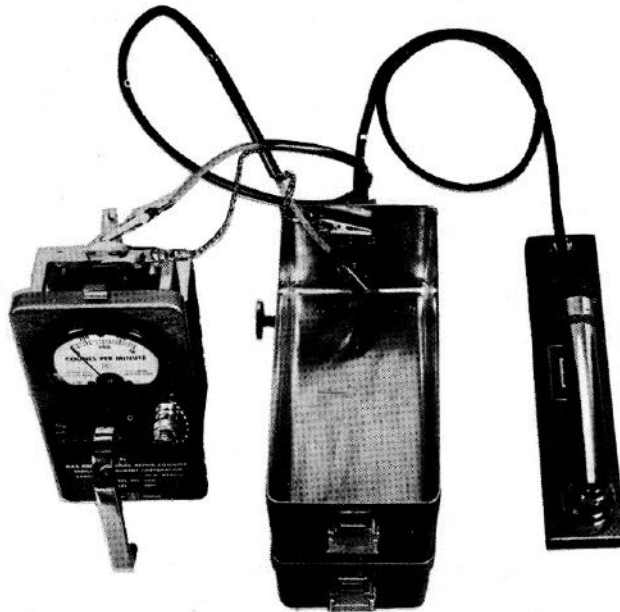
Type Number	Item Description	Pages
AN/MLQ-16	Electronics Countermeasure Set	1-10
AN/MTQ-3	Radio Interceptor Control Set	1-9
AN/GMD-1	Rawin Set	1-6
AN/MMQ-1	Wind Measuring Set	1-6
AN/MRD-15	Direction Finder Set	1-9
AN/PDR-54	Alpha Survey Meter	1-6
AN/PRD-1	Direction Finder Set	1-6
AN/PRM-1A	Radio Interference Measuring Set	1-6
AN/PRS-3 and 3A	Mine Detecting Set	1-6
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AN/TNH-7	Sound Recorder Reproducer Set	1-7
AN/TRD-12	Direction Finder Set	1-6
AN/TRQ-19	Distance Measuring Set	1-7
AN/TSQ-5 and 6	Combat Information Centrals	1-7
AN/URM-47	Radio Interference Measuring Set	1-7
PE-75()	Power Unit	1-6
PP-775A/U	Battery Charger	1-6
PP-1277/U	Inverter Vibrator	1-6
PU-239()/G	Generator Set	1-6
PU-296/G and A/G	Generator Set	1-6
PU-344()/G	Generator Set	1-6
PU-345()/G	Generator Set	1-6
PU-346()/G	Generator Set	1-6
PU-347()/G	Generator Set	1-6
PU-348()/G	Generator Set	1-6
PU-454()/G	Generator Set	1-6
PU-482()/M	Generator Set	1-6
PU-493()/M	Generator Set	1-6
RCX	Panoramic Indicator	1-6

ALPHA SURVEY METER AN/PDR-54

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Alpha Survey Meter AN/PDR-54

GENERAL DATA		MAJOR UNITS	
F. S. N:	6665-542-1587	(1)	Electrical Headset JCENS H-43A/U
ID Number:	02424A	(1)	Radiac Probe DT-212/PDR
Function:	To detect the presence of and measure radioactive particles.	(1)	Radiacmeter JCENS TM-154/PDR-54
Manufacturer:	Eberline Instrument Corp. Santa Fe, N. M.	(1)	Radioactive test sample
Contracts:	NObsr 75630 NObsr 85213		
Approximate price:	\$1,030.00		
Recommended operational checkout interval:	<u>DAILY</u>		

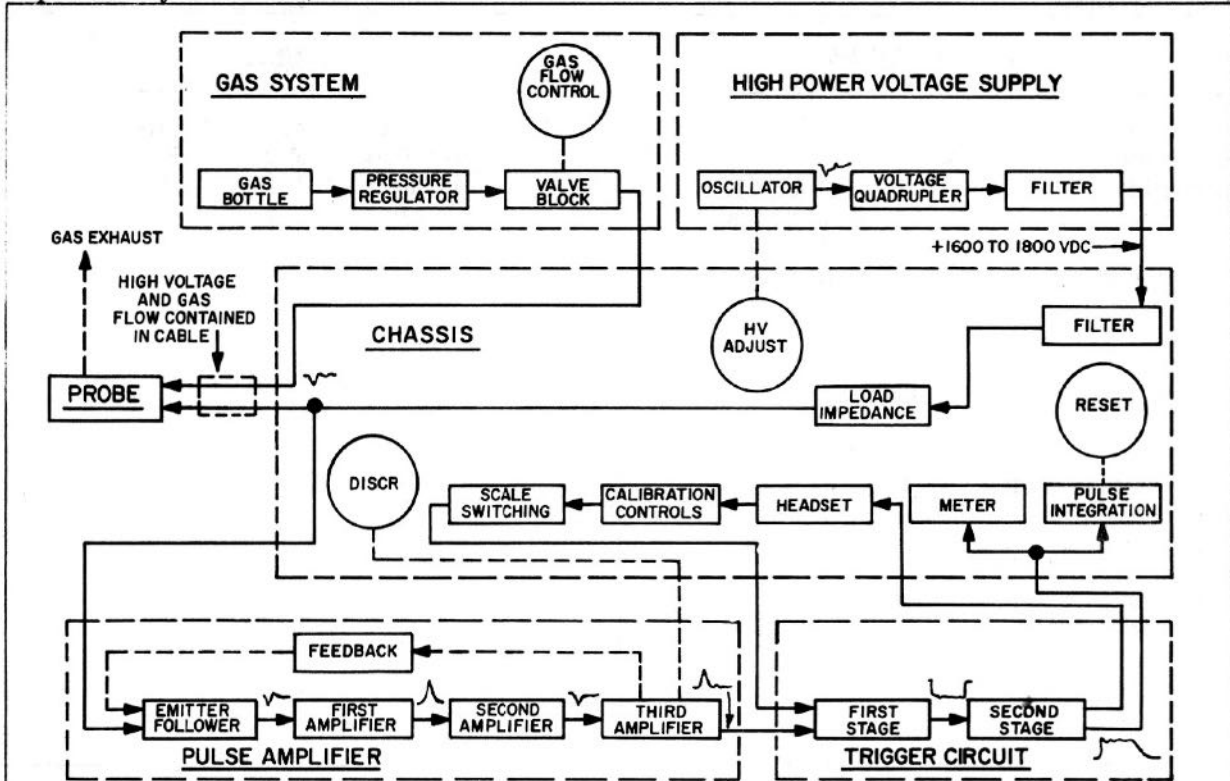


Alpha Survey Meter AN/PDR-54.

ALPHA SURVEY METER AN/PDR-54

Alpha Survey Meter AN/PDR-54

October 1961



Alpha Survey Meter AN/PDR-54, Detail Block Diagram.

OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS		
<p>Use: Alpha Survey Meter AN/PDR-54 is a portable, battery operated device for detecting the presence and measuring the quantity of alpha emitting radioactive material. The detecting element is a gas flow proportional type probe.</p> <p>The presence of alpha particles is heard on the headset; the quantity is indicated on the Counts Per Minute meter.</p> <p>Used with:</p> <p>Installation: Portable.</p>	<p>Power requirements: 1.3, 2.6, 5.2 volt battery source.</p> <p>Meter ranges: 0-1000, 10,000 and 100,000 counts per minute.</p> <p>Gas atmosphere: TX Bantam Propane, 99% radioactive free.</p> <p>Check source: Radioactive test sample; uranium oxide; 5,000 counts per minute <math>\pm</math> 15%.</p>		
SIMILAR EQUIPMENTS	PHYSICAL CHARACTERISTICS		
Radiac Set AN/PDR-27 and Radiac Set AN/PDR-39.	Unit	Overall Weight (in lbs)	Cubic Feet
	AN/PDR-54	25 (approx)	1 (approx)

ALPHA SURVEY METER AN/PDR-54

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Alpha Survey Meter AN/PDR-54

PUBLICATIONS

NAVSHIPS 93330, Radiac Set AN/PDR-54,  
Apr 59.

SL-3-02424A, Radiac Set AN/PDR-54,  
Mar 61.  
SL-4-02424A, Radiac Set AN/PDR-54,  
Mar 60.



ALPHA SURVEY METER AN/PDR-54

Alpha Survey Meter AN/PDR-54

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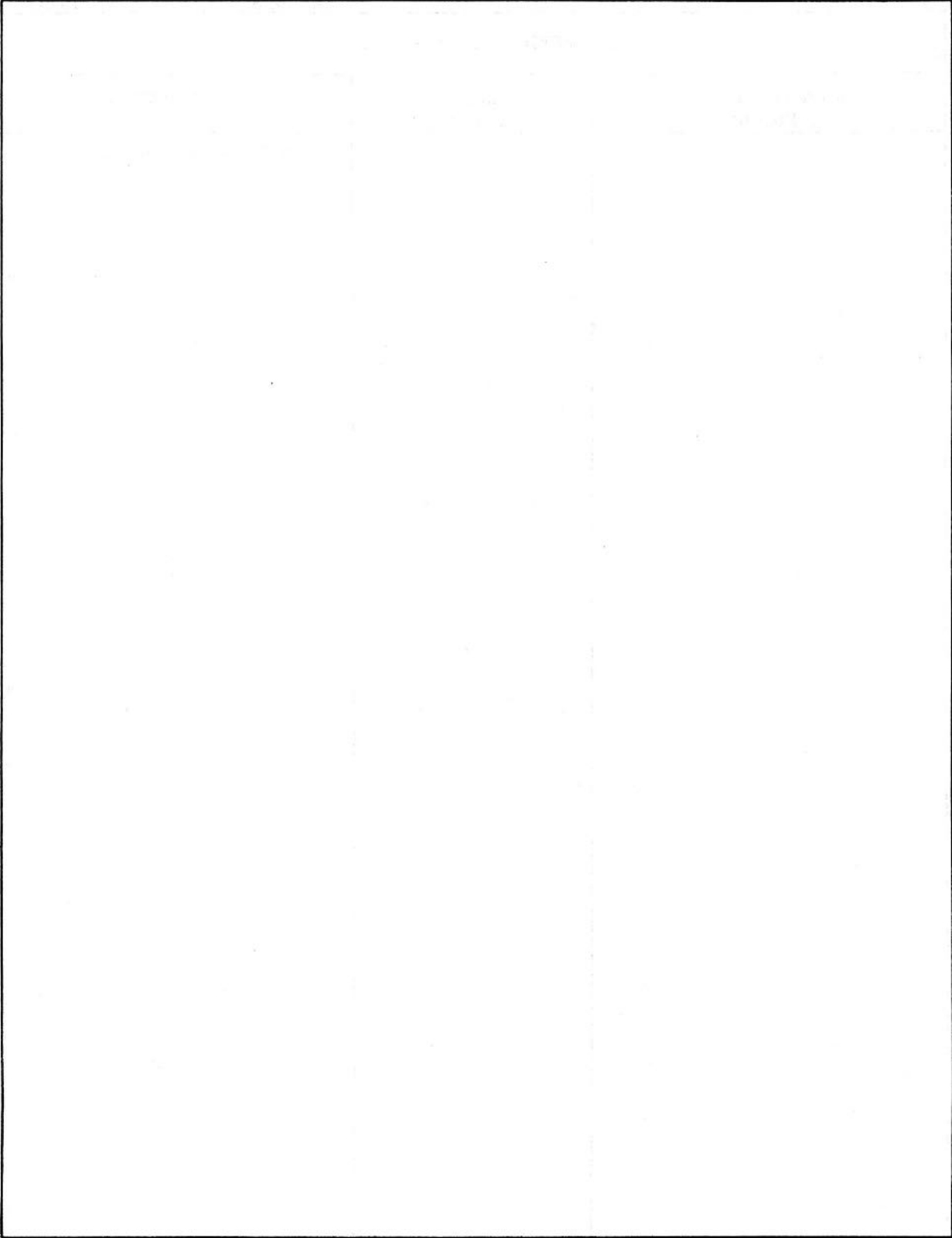
MAINTENANCE DATA

Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Adjustments	*Electrostatic voltmeter: 1200 to 2100 VDC	Sensitive Research Instrument Corporation Model ESD		NAVSHIPS 93330, Section 4, paragraph 4-8.
	* Fourth or fifth echelon			

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Alpha Survey Meter AN/PDR-54

EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
		No modification authorized.

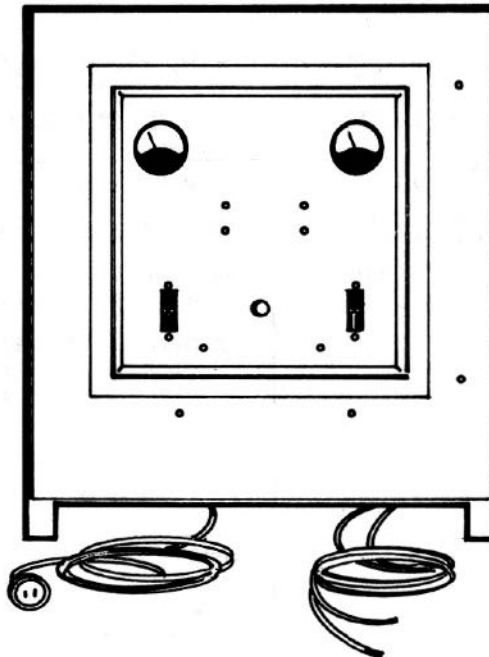


BATTERY CHARGER PP-775A/U

October 1961

Battery Charger PP-775A/U

GENERAL DATA	MAJOR UNITS
<p>F. S. N: 6130-548-2936                      ID Number: 00252B                      Function: Charge batteries.                      Manufacturer: Hollingsworth Corp.                      Clifton Hts., Penn.                      Contracts: Order No. 19897-PP-58</p> <p>Approximate price: \$1,270.00                      Recommended operational checkout interval: <u>BI-WEEKLY</u></p>	<p>(1) Battery Charger JCENS PP-775A/U                      (1) Battery Charger Case JCENS PP-775A/U</p>

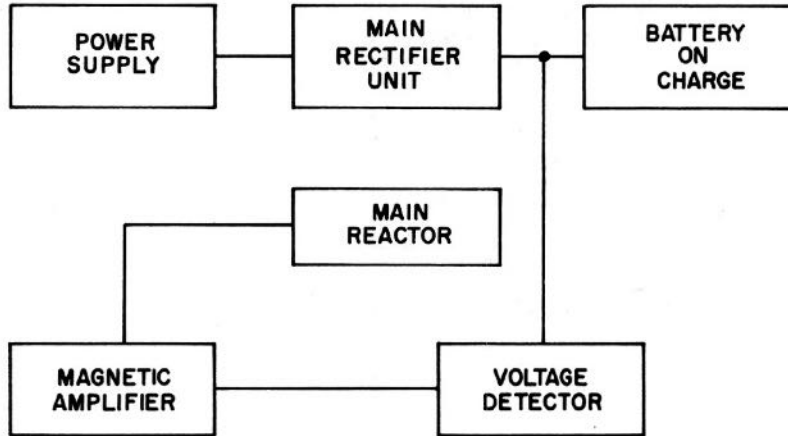


Battery Charger PP-775A/U.

# BATTERY CHARGER PP-775A/U

Battery Charger PP-775A/U

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Battery Charger PP-775A/U, Block Diagram

OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS		
<p>Use: Battery Charger PP-775A/U is a constant voltage-type (taper charge) battery charger used to charge or float either 24-cell or 25-cell nickel-cadmium storage batteries.</p> <p>Used with: Battery BB-401/U</p> <p>Installation: Portable.</p>	<p>Input voltage: 105 to 125 VAC.</p> <p>Frequency: 58 to 62 CPS.</p> <p>Maximum current: 20 amperes.</p> <p>Output: 45 to 50 amperes charging; 0.96 to 1.0 amperes floating.</p>		
SIMILAR EQUIPMENTS	PHYSICAL CHARACTERISTICS		
<p>Battery Charger PP-367/U.</p>	Unit	Overall Weight (in lbs)	Cubic Feet
	PP-775A/U	535	23.25 (crated)

BATTERY CHARGER PP-775A/U

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Battery Charger PP-775A/U

PUBLICATIONS

SL-3-00252, Battery Charger PP-775/U,  
PP-775A/U, Jan 61.  
SL-4-00252, Battery Charger PP-775/U,  
PP-775A/U, Oct 60.

TM 11-989, Battery Charger PP-775/U,  
PP-775A/U, Sep 54, ch 1 Aug. 55, Ch 2  
Feb. 56, Ch 3 Sep. 57, Ch 4 Feb. 59.

BATTERY CHARGER PP-775A/U

Battery Charger PP-775A/U

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MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Organizational maintenance	No special tools or equipment required.			TM 11-989, paragraphs 22 through 32.
Adjustments and final testing	Multimeter: 0 to 50 VDC, 100 to 125 VAC  Oscilloscope  Milliammeter: 0-25 ma center scale.	AN/PSM-4A  OS-8( )/U  Weston Model 1031 panel meter	TS-352( )/U  OS-10/U  F. S. 120* Emerson Electric Co. or BE-77 line unit	TM 11-989, paragraphs 44 through 49.
	* Non T/A item			

BATTERY CHARGER PP-775A/U

October 1961

Battery Charger PP-775A/U

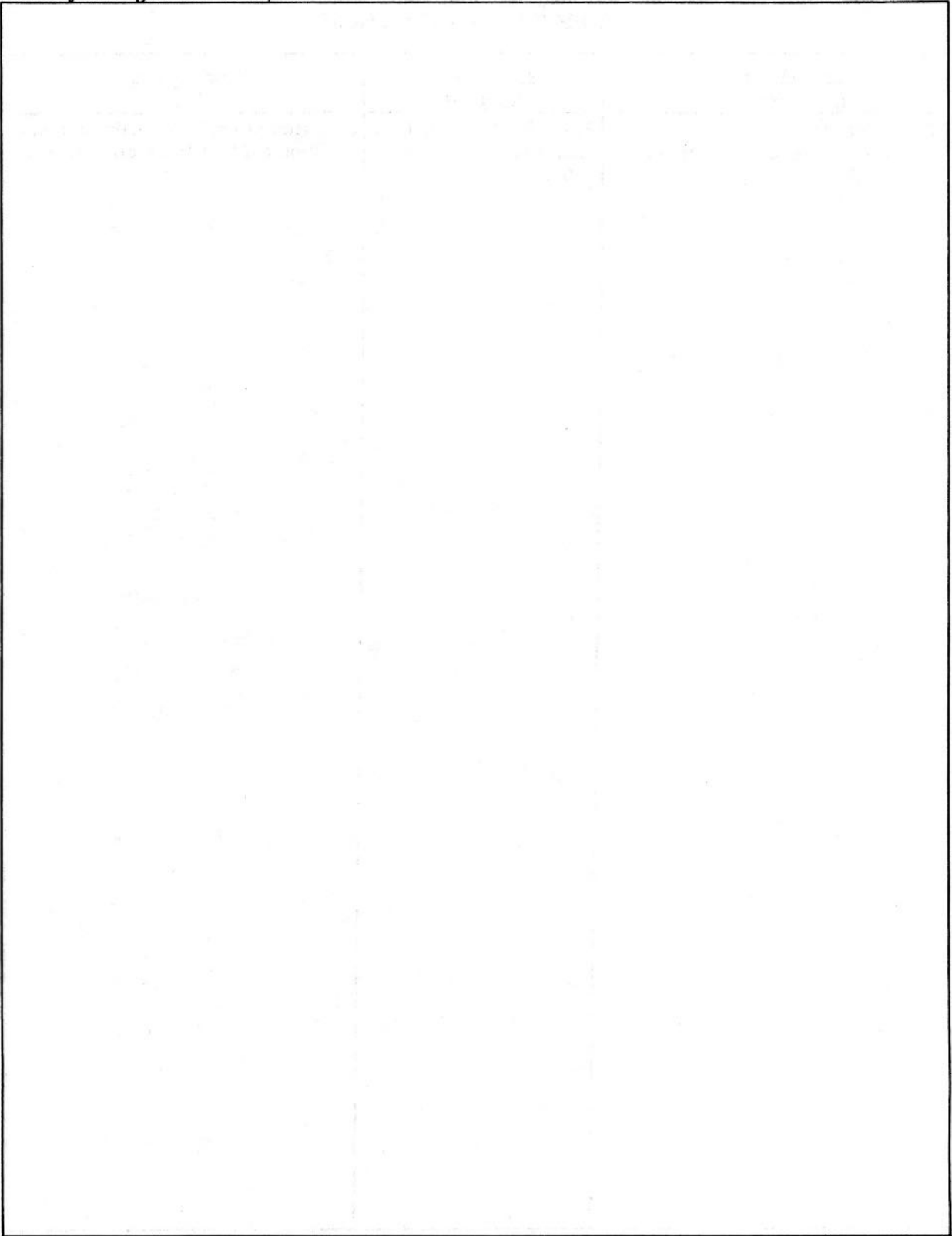
EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
MCO 2005. 43 Sup 2: Provisions for cap and chain assembly.	PP-775A/U, serial numbers 1 through 207.	Addition of cap and chain assembly on each of the 6 connectors.



BATTERY CHARGER PP-775A/U

Battery Charger PP-775A/U

October 1961



COMBAT INFORMATION CENTRALS AN/TSQ-5 AND AN/TSQ-6

October 1961

Combat Information Centrals AN/TSQ-5 and AN/TSQ-6

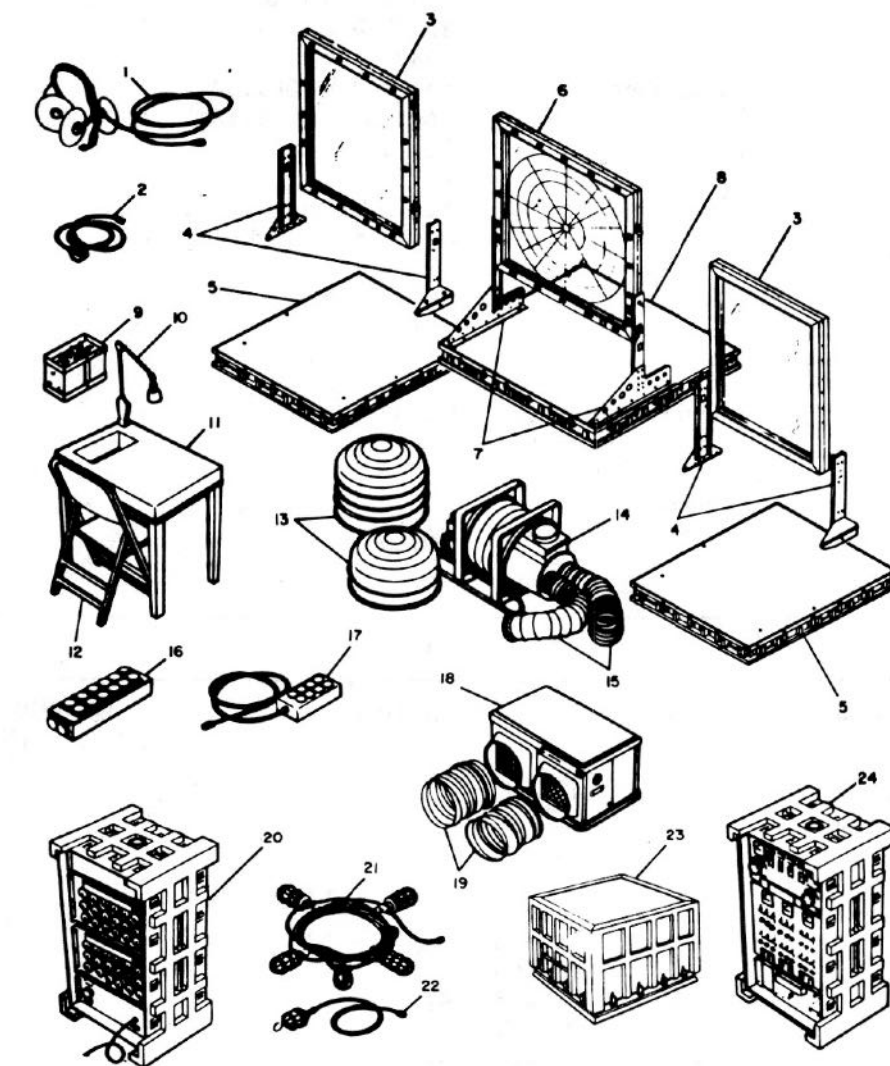
GENERAL DATA	
F. S. N:	AN/TSQ-5, 5895-543-0552 AN/TSQ-6, 5895-644-4568
ID Number:	AN/TSQ-5, 00110A, AN/TSQ-6, 00111A
Function:	Positive control of aircraft.
Manufacturer:	Auth Electric Co., Inc. Long Island City, N. Y.
Contracts	NObsr 57587 NObsr 71167
Approximate price: Recommended operational checkout interval:	\$63,000.00    <u>DAILY</u>

MAJOR UNITS			
Name	Designation	Quantity	
		AN/TSQ-5	AN/TSQ-6
Radio Set Control	C-1538/TSQ	18	24
Power Supply Control	C-1539/TSQ	1	1
Interconnecting Box	J-655/TSQ	1	1
Electrical Connector Assembly	U-157/TSQ	2	4
Electrical Power Cable Assembly	CX-3101/TSQ	2	2
Air Conditioner	HD-209/U	2	4
Tactical Display Plotting Board	PT-363/TSQ	1	1
Plotting Board Stanchion Set	MT-1494/TSQ	1	1
Tactical Display Plotting Board	PT-364/TSQ	2	2
Plotting Board Stanchion Set	MT-1495/TSQ	2	2
Portable Duct Type Heater	HD-210/U	1	1
Desk Light	MX-1692/U	12	12
Extension Light	MX-1693/U	2	2
Extension Light	MX-1694/U	2	2
Electrical Footswitch	SA-408/U	12	24
Microphone Headset	H-103/U	24	36
Prefabricated Panelized Building	S-105/TSQ	1	0
Prefabricated Panelized Building	S-106/TSQ	0	1
Cable Assembly Case w/assorted cables	CY-1704/TSQ	5	7
Radio Set Control Desk	FN-78/TSQ	12	12
Folding Chair	FN-79/U	18	24

# COMBAT INFORMATION CENTRALS AN/TSQ-5 AND AN/TSQ-6

Combat Information Centrals AN/TSQ-5 and AN/TSQ-6

October 1961



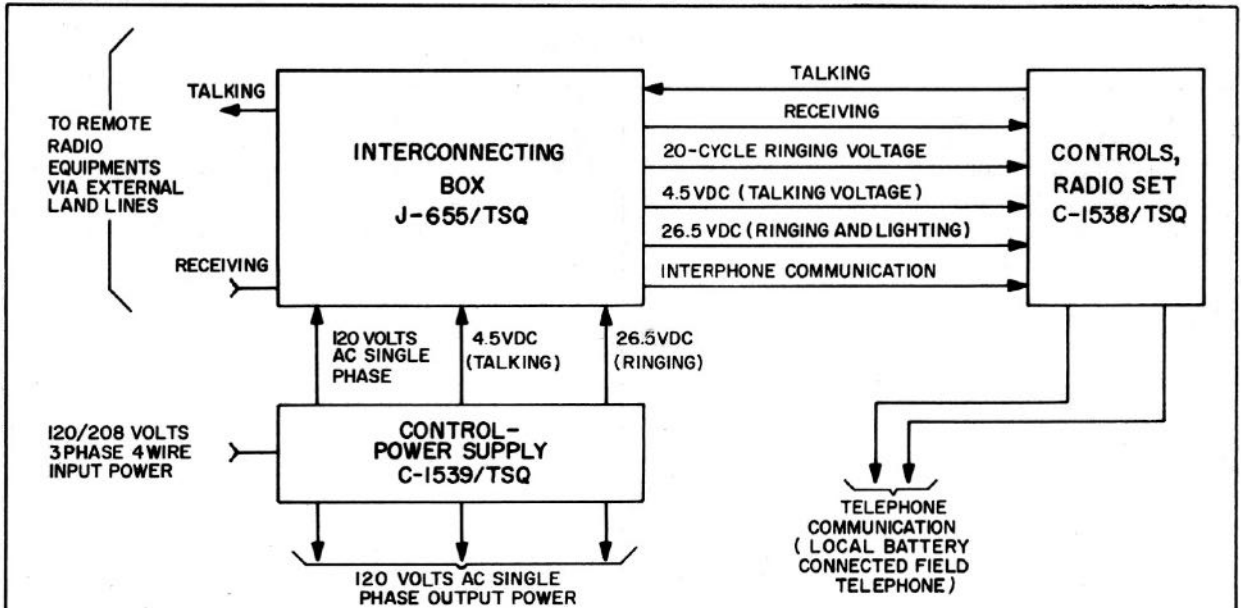
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|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ol style="list-style-type: none"> <li>1. Headset-Microphone H-103/U</li> <li>2. Switch, Foot, Electrical SA-408/U</li> <li>3. Plotting Board, Tactical Display PT-364/TSQ</li> <li>4. Stanchion Set, Plotting Board MT-1495/TSQ</li> <li>5. Case, Plotting Board CY-1700/TSQ</li> <li>6. Plotting Board, Tactical Display PT-363/TSQ</li> <li>7. Stanchion Set, Plotting Board MT-1494/TSQ</li> <li>8. Case, Plotting Board CY-1699/TSQ</li> <li>9. Control, Radio Set C-1538/TSQ</li> <li>10. Light, Desk MX-1692/U</li> <li>11. Desk, Radio Set Control FN-78/TSQ</li> <li>12. Chair, Folding FN-79/U</li> </ol> | <ol style="list-style-type: none"> <li>13. Heater End Domes</li> <li>14. Heater, Duct Type, Portable HD-210/U</li> <li>15. Heater Air Ducts</li> <li>16. Connector Assembly, Electrical U-157/TSQ</li> <li>17. Cable Assembly, Power, Electrical CX-3101/TSQ</li> <li>18. Air Conditioner HD-209/U (Cover Removed)</li> <li>19. Air Conditioner Air Ducts</li> <li>20. Interconnecting Box J-655/TSQ</li> <li>21. Light, Extension MX-1694/U</li> <li>22. Light, Extension MX-1693/U</li> <li>23. Air Conditioner Cover</li> <li>24. Control-Power Supply C-1539/TSQ</li> </ol> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Combat Information Centrals AN/TSQ-5 and AN/TSQ-6.

COMBAT INFORMATION CENTRALS AN/TSQ-5 AND AN/TSQ-6

October 1961

Combat Information Centrals AN/TSQ-5 and AN/TSQ-6



Combat Information Centrals AN/TSQ-5 and AN/TSQ-6, Functional Block Diagram.

OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS		
<p>Use: The AN/TSQ-5 equipment is designed for such use as an integrated Direct Air Support Center employed by the Marine Air Support Squadron, or elements thereof. The AN/TSQ-6 equipment is intended for such use as an integrated Counter Air Operations Center as employed by the Marine Air Control Squadron, or as the Tactical Air Control Center of the Marine Air Wing when so utilized by the Tactical Air Control Section of the Headquarters and Headquarters Squadron of the Marine Aircraft Wing.</p> <p>Used with: MPS-16 Height Finder Radar, MPS-11 Search Radar, TPS-15 Search Radar, and various air-to-ground and ground-to-ground radios.</p> <p>Installation: The AN/TSQ-5 and AN/TSQ-6 equipments are transportable Combat Information Centrals.</p>	<p>Primary power required: 120/208 VAC, 60-cycle, 3-phase, 4-wire, 20 KW.</p> <p>Land line: 24 connections for telephone or remote radio.</p> <p>TSQ-5 shelter: 20 ft. in dia. by 10 ft. high.</p> <p>TSQ-6 shelter: 40 ft. long by 20 ft. wide and 10 ft. high.</p>		
SIMILAR EQUIPMENTS	PHYSICAL CHARACTERISTICS		
	Unit	Overall Weight (in lbs)	Cubic Feet
	AN/TSQ-5	10,000 (in 37 packages)	900 (crated)
	AN/TSQ-6	13,900 (in 47 packages)	1295 (crated)

COMBAT INFORMATION CENTRALS AN/TSQ-5 AND AN/TSQ-6

Combat Information Centrals AN/TSQ-5 and AN/TSQ-6

Revised  
April 1962

PUBLICATIONS

MI-5895-25/4, Circuit Breaker Sub for  
AN/TSQ-5, 6, Jan 62.  
NAVMC ELECT 2005, Operations Central  
AN/TSQ-5, Nov 54.  
SIG-M8, Combat Information Cent  
AN/TSQ-5, 6, Jan 57.

TI-5410-25/1, Fld Rpr Kit Shelters  
S-105, 106/TSQ, Aug 61.  
NAVSHIPS 92931, Interconnecting Box  
J-643/TSQ, Jan 57.  
SIG-M8, Interconnecting Box J-643/TSQ,  
Mar 57.

COMBAT INFORMATION CENTRALS AN/TSQ-5 AND AN/TSQ-6

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Combat Information Centrals AN/TSQ-5 and AN/TSQ-6

MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Operators maintenance	No special tools or equipment required.			NAVMC ELECT 2005, Section 5.
Voltage and resistance checks	Multimeter: 0-26 VDC, 0-330 K ohms	AN/PSM-4A	TS-352( )/U	NAVMC ELECT 2005, Section 7, paragraph 3c.

COMBAT INFORMATION CENTRALS AN/TSQ-5 AND AN/TSQ-6

Revised  
April 1962

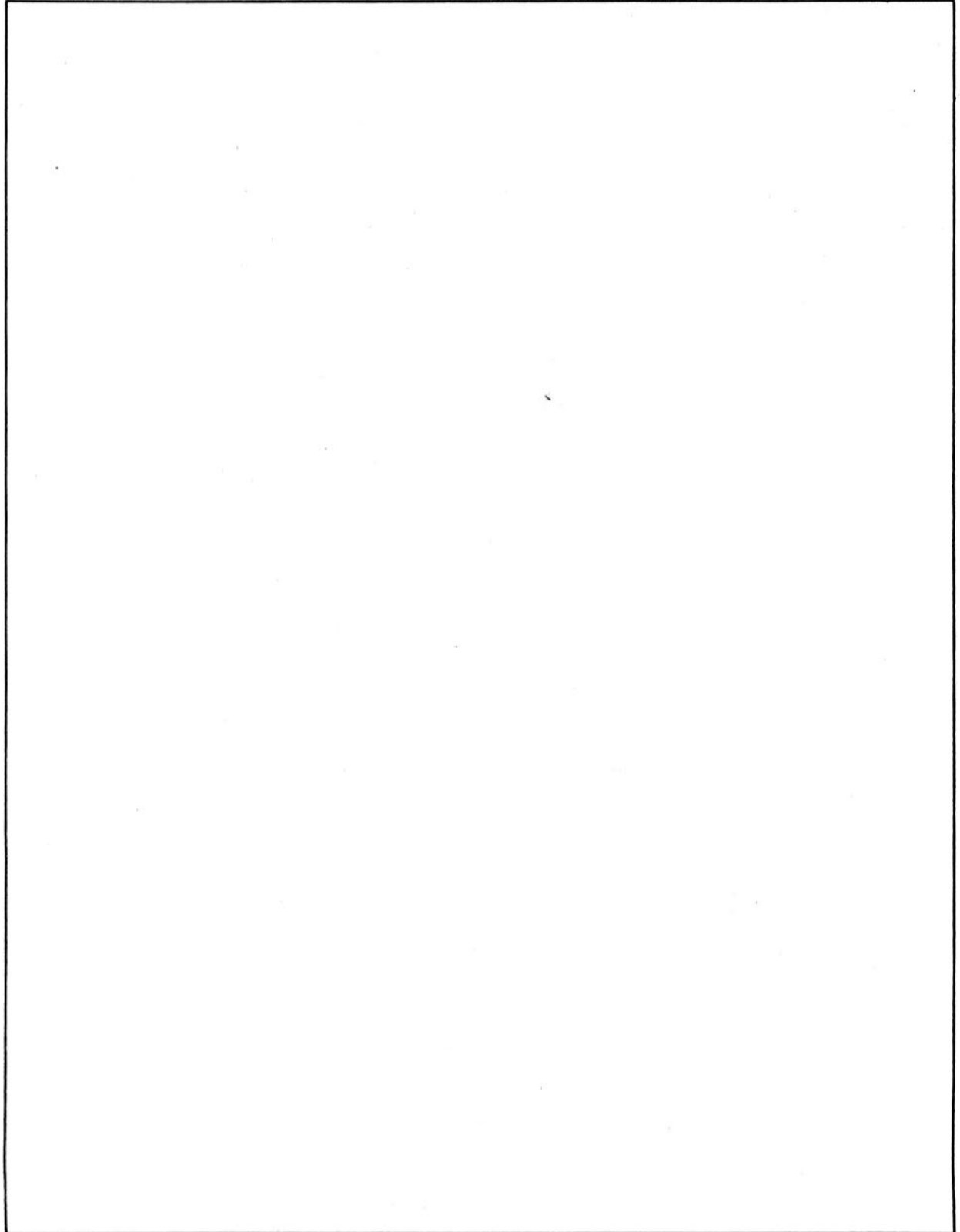
Combat Information Centrals AN/TSQ-5 and AN/TSQ-6

EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
MCO 2005.27 Sup 4: Reinforcement of H-103 cord assembly.	H-103/U	Cord assembly secured to ear-phone assembly with nylon cord.
MCO 2005.27 Sup 5: Alternate methods of mounting equipment.	AN/UPA-25	Installation of shelf on top of AN/UPA-25 for mounting units C-1988/GPA-60, C-1538/TSQ, and unit OA-1240/MPS-16.
MCO 2005.27 Sup 6: Installation of additional air conditioners.	S-105/TSQ-5 S-106/TSQ-6	Addition of two more air conditioners for AN/TSQ-5 and four more for AN/TSQ-6.
MCO 2005.27 Sup 7: Provide for minor repair to shelter panels.	S-105/TSQ-5 S-106/TSQ-6 S-106A/TSQ-6	Rubber gaskets on shelter panels have been replaced.
MI-5895-25/4 Circuit breaker substitution.	C-1439/TSQ	Replace circuit breaker BC-204 with new one.

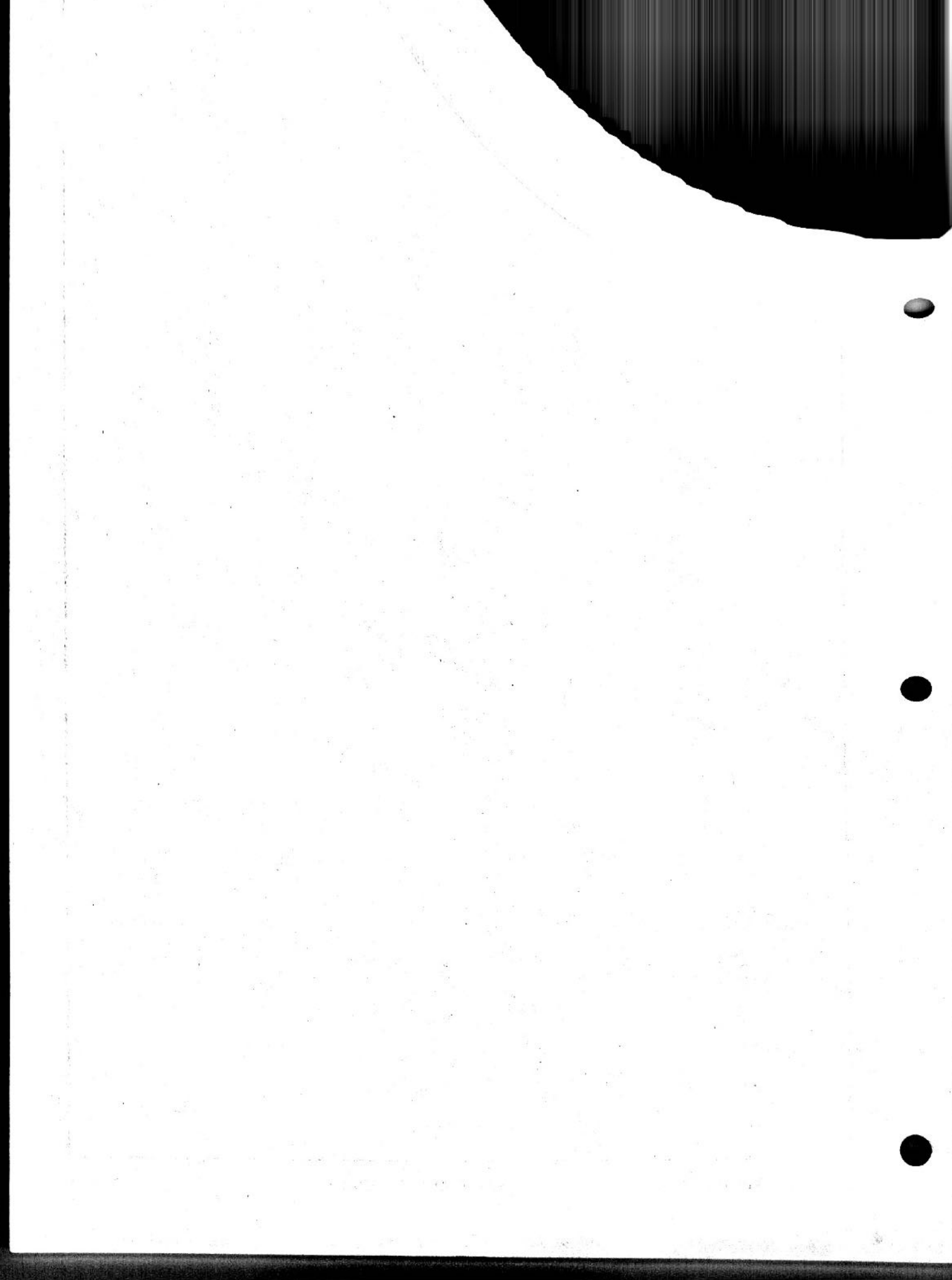
COMBAT INFORMATION CENTRALS AN/TSQ-5 AND AN/TSQ-6

October 1961

Combat Information Centrals AN/TSQ-5 and AN/TSQ-6







DIRECTION FINDER SET AN/MRD-15

October 1961

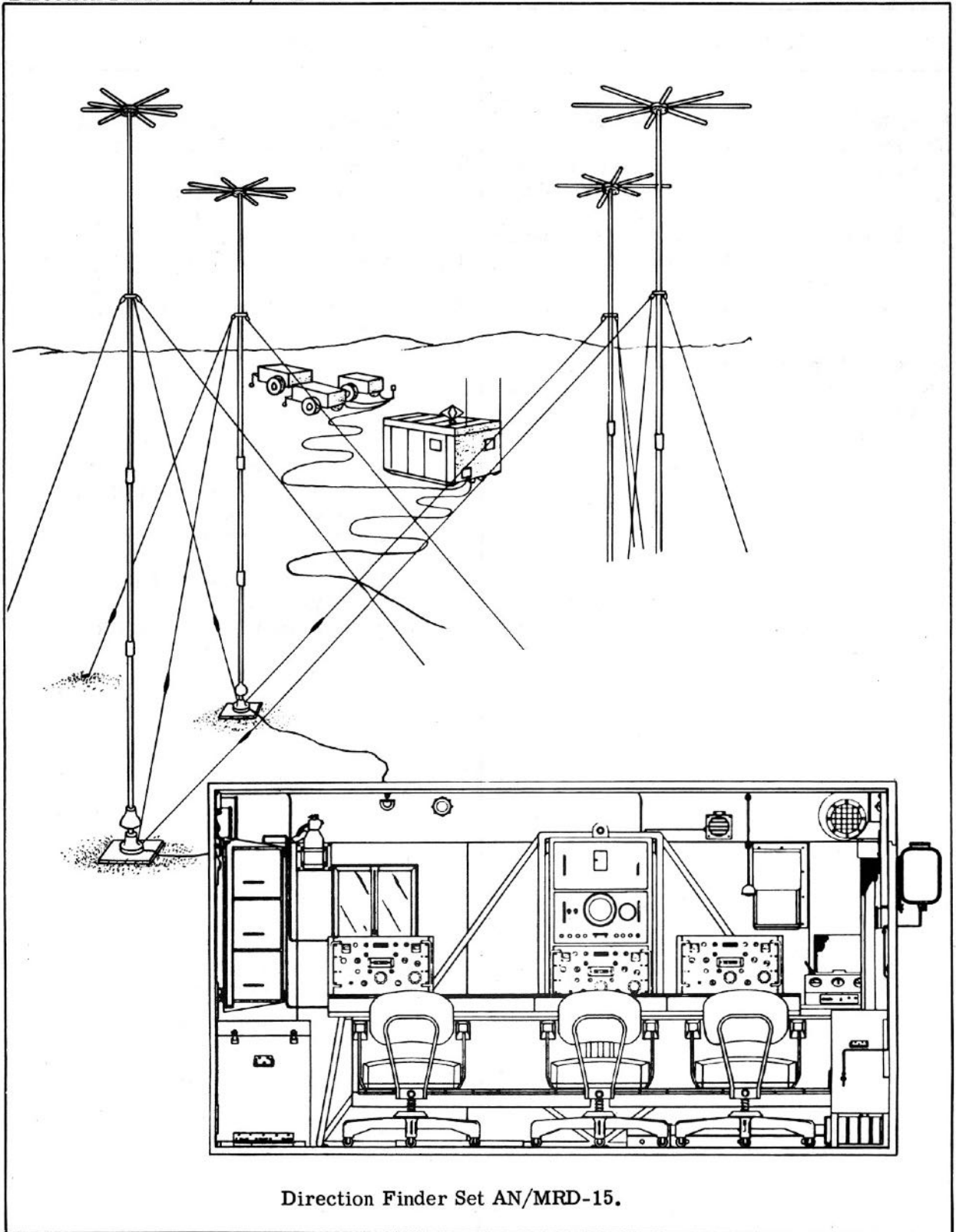
Direction Finder Set AN/MRD-15

GENERAL DATA	MAJOR UNITS
<p>F. S. N: 5825-563-9526                      ID Number: 00074A                      Function: Interception and direction finding of radio transmissions.                      Manufacturer: Servo Corp. of America Hicksville, N. Y.                      Contracts: Unknown                      Approximate price: \$37,500.00                      Recommended operational checkout interval: <u>DAILY</u></p>	<p>(1) Antenna Assembly AT-297/TRD-4                      (4) Antenna Assemblies AS-533/GR                      (2) Mast Bases AB-15/GR                      (2) Mast Sections MS-116A                      (2) Mast Sections MS-117A                      (2) Mast Sections MS-118A                      (1) Counterpoise MX-1169/GRD                      (1) Goniometer Drive MX-1170/GRD                      (2) Electrical Goniometers GO-5/GRD                      (1) Electrical Goniometer GO-6/GRD                      (1) Azimuth Indicator IP-137/GRD                      (1) Junction Box J-95B/CRD-2                      (1) Loudspeaker LS-166/U                      (1) RF Amplifier AM-496/TRD-4                      (1) Radio Receiver R-390/URR rack mounted                      (2) Radio Receivers R-390/URR with case CY-979/URR                      (2) Generator Sets PU-236/G                      (1) Switch Box SA-345/U                      (1) Transmission Line Switch SA-346/GRD                      (1) Radio Transmitter T-279/UR</p>

DIRECTION FINDER SET AN/MRD-15

Direction Finder Set AN/MRD-15

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Direction Finder Set AN/MRD-15.

**DIRECTION FINDER SET AN/MRD-15**

October 1961

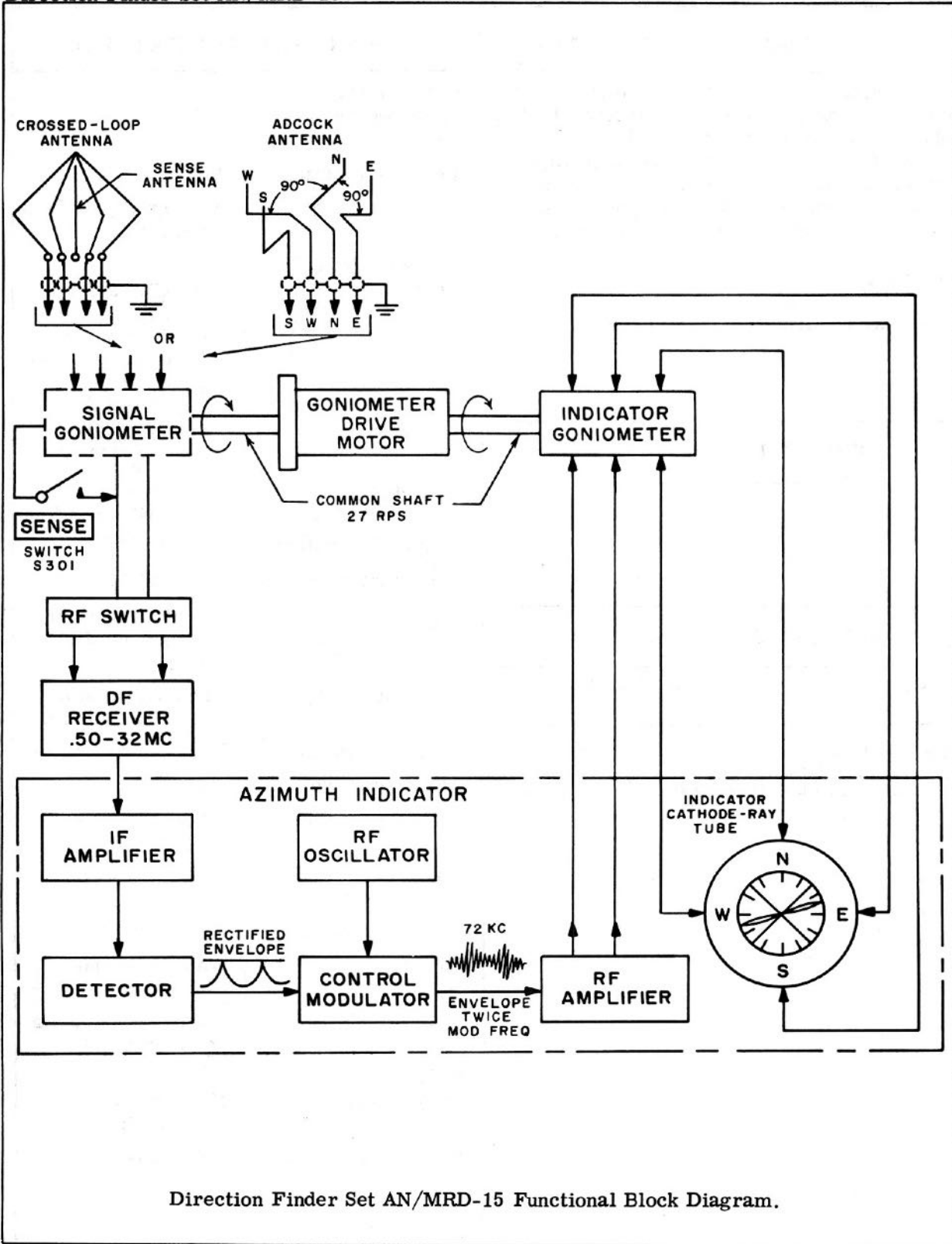
Direction Finder Set AN/MRD-15

OPERATIONAL CHARACTERISTICS			TECHNICAL CHARACTERISTICS	
<p><b>Use:</b> Direction Finder Set AN/MRD-15 is a complete transportable radio direction finding station that covers the frequency range of .5 to 32 megacycles, with separate facilities for direction finding, intercept reception, communication reception, field telephone communication, and frequency measurement.</p> <p><b>Used with:</b></p> <p><b>Installation:</b> Ground transportable.</p>			<p>Communication and intercept receivers:</p> <p><b>Frequency range:</b> 0.5 to 32 MC.</p> <p><b>Antennas:</b> Vertically polarized whips.</p> <p><b>Types of signals received:</b> AM, CW, and FM. Narrow-band FM can be monitored by detuning; wide-band FM can be monitored, but voices will be badly distorted.</p>	
<b>SIMILAR EQUIPMENTS</b>			<p><b>Sensitivity:</b> AM signals, 3 uv; CW signals, 1 uv.</p>	
<b>PHYSICAL CHARACTERISTICS</b>			<p><b>Radio Transmitter:</b></p> <p><b>Frequency range:</b> 0.50 to 30 MC.</p> <p><b>Antenna:</b> Telescopic, vertically polarized whip.</p>	
<b>Unit</b>	<b>Overall Weight (in lbs)</b>	<b>Cubic Feet</b>	<p><b>Transmitter type:</b> Master oscillator power amplifier.</p>	
AN/MRD-15	16000 Mounted in Shelter SH-44A	2419 (crated)	<p><b>Types of signals:</b> CW and AM (MCW).</p> <p><b>Effective range:</b> Less than 1 mile.</p> <p><b>Modulation circuit:</b> Negative resistance oscillator.</p>	
			<p><b>Direction Finding Components:</b></p> <p><b>Frequency range:</b> 0.54 to 30 MC.</p> <p><b>Antennas:</b> Whip, loop and monopole.</p> <p><b>Bearing indication:</b> Instantaneous, visual, and aural null.</p> <p><b>Power input requirements:</b> 115/230 volts, 50 to 60 CPS.</p> <p><b>Power consumption:</b> 1843 watts.</p>	

DIRECTION FINDER SET AN/MRD-15

Direction Finder Set AN/MRD-15

October 1961



Direction Finder Set AN/MRD-15 Functional Block Diagram.

DIRECTION FINDER SET AN/MRD-15

Revised  
April 1962

Direction Finder Set AN/MRD-15

PUBLICATIONS	
D/L VOL 111, Telephone EE-8, Jun 53.	TB 9-248, Rubber Preserv Descript-Appli-
LO 9-8022, Lubrication Order, Aug 57.	cation, Sep 58.
LO 11-2599, Shelters S-44/G, S-44A/G, S-44B/G, May 56.	TB 9-265, Discontinuance Red Paint Mk Lub P16, Dec 58.
MPL 8013 MT 7-8-9, Forging Kit Deep Water, Dec 56 and Ch 1 Apr 57.	TB 9-282, Combat Veh Protect Insul Comm Equip, Sep 59.
SIG 7-8, Goniometer Electrical GO-6/GRD, Aug 58.	TB 9-300-1/1, Combat Veh Inspect-Preser D/Storage, May 60.
SIG 7-8, Junction Box J-95/GRD-2, Apr 55.	TB 9-343, Ord Veh Install-Use Overhaul Plates, Apr 60.
SIG 7-8, Mast Base AB-15/GR, Nov 57.	TB 9-819-16, Correction of Loose Vibration Damp, Mar 53.
SL-3-00671A, Tool Kit Fld Maint 3 Ech Spcl Basic, Apr 60.	TB 9-1859-3, Time Schedule Guide, Mar 53, and Ch 1.
SL-3-00672A, Tool Kit Field Maintenance, Jan 61.	TB 9-1870-1/1, Care Pneumatic Tires and Inner Tube, Jul 56.
SL-3-00682A, Tool Kit Field Maint 3 Ech Supp Gov, Apr 60.	TB 9-1870-1/2, Pneum Tires Tubes Flaps Inst Unserv, Feb 57.
SL-3-00685A, Tool Set Carburetor Apr 3 Thr 5 Ech, Apr 60.	TB 9-2300-206-15, Test-Rebuild 100 Amp 28V Gen System, Nov 58.
SL-3-01496A, Tool Kit Field Maint 4 Ech Supp Gov, Apr 60.	TB 9-2300-228-20, Trouble Shoot F/Ins Cluster Wiring, Jul 60.
SL-3-01502A, Tool Kit Org M 2nd Ech Spcl Set B, Apr 60.	TB 9-2855-8, Installation of Personnel Heater Kt, Jul 54.
SL-4-02336A, Telephone Set TA-312/PT, Mar 61.	TB 9-2855-9, Installation of Power Plant Heaters, Jan 55.
SNL G-742 ORD 8, Field and Depot Maint Allowances, Sep 57.	TB 9-2855-10, Installation of Hardtop Close Kit, Jul 53.
SNL G-249 ORD 8 V10, Winterization Equip- ment M37, Feb 55.	TB 9-2855-41, Installation of Personnel Heater Kt, Dec 56.
SNL G-742 ORD 9, List of all Parts, Jan 55.	TB 9-8022-22, 2-1/2T 6x6 M Series Inst Thermostat, Apr 55.
TB ORD 245, Std Procd Dep O/Haul Ord Tank Auto, Aug 61.	TB 9-8022-26, 2-1/2T M Series Trks Inst Air Gov, Nov 56.
TB ORD 392, Int Lub New Rebuilt Gas Eng B Use, Sep 60.	TM 9-207, Oper-Maint Ordmatl in Extreme Cold, Sep 59.
TB ORD 460, Liq Cool Eng-Equip Clean Drain Hole, Jul 52.	TM 9-236, Military Tactical Vehicles, Sep 60.
TB ORD 467, M Series Veh Use Prop Fuel Tank Cap, Aug 52.	TM 9-1825B, Electrical Equipment Auto-Lite, Nov 52.
TB ORD 485, M Models Servicing Data Plate Corr, Jan 53.	TM 9-1827A, Power Brake Sys Bendix- Westinghouse, Feb 53.
TB ORD 499, 1/4, 3/4, 2-1/2T M Ser Veh Repl Swtch, Mar 53.	TM 9-1827C, Brake-Misc Equip Wagner- Lockhead, Jan 53.
TB ORD 500, 2-12, 5T M Ser Veh Weld Tie- Rod End, Apr 53.	TM 9-1828A, Fuel Pumps, Dec 52 and Ch 1.
TB ORD 524, Installed Metal Tanks Clean- Preserv, Jun 53.	TM 9-1829A, Ord Maint Speedometers Tachometers, Apr 44.
TB ORD 598, Operation of Power Plant Heaters, Apr 55.	TM 9-1870-1, Care and Maint of Pneumatic Tires, Feb 55 and Ch 1.
TB ORD 616, Tact-Comm Mover Trlrs Interveh Conn, Aug 56.	TM 9-2320-209-20P, Organizational Repair Prts Sp Tools, Apr 59 and Ch 1.
TB 9-245, Stand-Procdr F/Depot Recond Ordmatl, Feb 59.	

DIRECTION FINDER SET AN/MRD-15

Direction Finder Set AN/MRD-15

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PUBLICATIONS

TM 9-2810, Tact Motor Veh Preventive Maint, Aug 58.	TM 11-5805-272-35P, Generator GN-38, GN-38A, GN-38B, Aug 59.
TM 9-2853, Prep Ord Mtl F/Deep Water Fording, Jul 45 and Ch 1.	TM 11-5820-357-20P, Receiver Radio R-390/URR, Nov 59.
TM 9-6140-200-15, Oper-Org F-D Maint Stor Bat Lead-AC, Jul 58.	TM 11-5820-357-35P, Receiver Radio R-390/URR, Nov 59.
TM 9-8000, Principles of Automotive Vehicles, Jan 56.	TM 11-5820-359-12P, Power Supply PP-621/URR, Dec 59.
TM 9-8022, Operation and Organizational Maint, Dec 54, Ch 3, Ch 4 Oct 58, Ch 5 and Ch 6.	TM 11-5820-359-35P, Power Supply PP-621/URR, Dec 59.
TM 9-8023-1, Ord Maint Eng Clutch 2-1/2T 6x6 Trk, Mar 57 and Ch 1.	TM 11-5825-201-10P, Direction Finder Set AN/TRD-4A, Jun 59.
TM 9-8023-2, Ord Maint Pwr Train Cab and Chassis, Mar 56 and Ch 1.	TM 11-5825-201-20P, Direction Finder Set AN TRD-4A, Jan 59.
TM 9-8023-3, Body and Auxiliary Equipment, Oct 55.	TM 11-5825-201-35P, Direction Finder Set AN TRD-4A, Feb 59.
TM 9-8615, Steering Gears, Jun 53.	TM 11-5825-215-10P, Indicator, Azimuth 1P-137 GRD, Oct 59.
TM 9-8617, Winches Pwr Takeoff Divider Hyd Eq, May 55.	TM 11-5825-215-20P, Indicator, Azimuth 1P-137 GRD, Apr 60.
TM 9-8621, Power Train Components, Dec 53.	TM 11-5825-715-35P, Indicator, Azimuth 1P-137 GRD, Apr 60.
TM 9-8623, Axles and Transfers, Apr 54, and Ch 1.	TM 11-5950-201-12P, Goniometer Electrical GO-5 GRD, Jan 60.
TM 9-8627, Electrical Equipment Delco-Remy Jun 53, and Ch 1.	TM 11-5950-201-35P, Goniometer Electrical GO-5 GRD, Jan 60.
TM 9-8647, Carburetors, Aug 58.	TM 11-5950-207-12P, Drive, Goniometer MX-1170 GRD, Oct 59.
TM 9-8662, Fuel Burn Heat F/Winter Equipment, Mar 54.	TM 11-5950-207-35P, Drive, Goniometer MX-1170 GRD, Dec 59.
TM 10-500-20, Air Dly of Supp Equip of Truck M34, Nov 58, and Ch 1.	TM 11-5965-222-15P, Handset TS-9-F, Dec 59.
TM 11-333, Telephone EE-8, EE-8A, EE-8B, Mar 45 and Ch 1.	TM 11-5965-222-15P, Dynamic Loudspeaker LS-166/U, Jul 59.
TM 11-688, Direction Finder Set AN/TRD-4A, Jun 55.	TM 11-5965-230-12P, Headsets HS-30 Series, Jul 59.
TM 11-2599, Shelter S-44/G, S-44A/G, Jan 53.	TM 11-5965-230-35P, Headsets HS-30 Series, Jul 59.
TM 11-5410-202-10P, Shelter S-44/G, S-44A/G, Dec 59.	TM 11-5965-231-12A, Headset, Electrical H-113/U, Nov 59.
TM 11-5410-202-20P, Shelter S-44/G, S-44A/G, Nov 59.	TM 11-5965-231-35P, Headset, Electrical H-113/U, Nov 59.
TM 11-5410-202-35P, Shelter S-44/G, S-44A/G, Nov 59.	TM 21-300, Driver Selection and Training, Dec 58.
TM 11-5805-200-12P, Telephone EE-8, EE-8A, EE-8B, EE-8C, EE-8D, EE-8E, Jul 59	TM 21-305, Manual for Wheeled Vehicle Driver, Dec 56 and Ch 1.
TM 11-5805-200-35P, Telephone EE-8, EE-8A, EE-8B, EE-8C, EE-8D, EE-8E, Jul 59.	TM 11240-1, USMC TM Tactical Mt Veh Prev Maint, Feb 61.
TM 11-5805-272-12P, Generator GN-38, GN-38A, GN-38B, Jul 59.	SL-3-02336A, Telephone Set, TA-312/PT, Sep 61.

DIRECTION FINDER SET AN/MRD-15

October 1961

Direction Finder Set AN/MRD-15

MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Organizational maintenance	No special tools or equipment required.			TM 11-688, paragraphs 87 through 103.
Alignment and final testing	Multimeter: 0 to 275 VDC, 0 to 50 ma	TS-352 ( )/U	AN/PSM-4A	TM 11-688, paragraphs 214 through 232.
	VTVM: 0 to 1.5 VDC, 0 to 40 VAC	TS-505/U	ME-25 ( )/U	
	Oscilloscope	OS-8 ( )/U	OS-10/U*	
	Frequency meter: 72 KC	SCR-211	HP-524D* AN/USM-122	
	Signal generator: 455 KC to 30 MC	AN/URM-25 ( )	*LP-5	
	Goniometer	GO-5/GRD		
	Goniometer	GO-6/GRD		
	For a list of test equipment for the receivers refer to the R-390/URR section.			
	*Non T/A item			



DIRECTION FINDER SET AN/MRD-15

Direction Finder Set AN/MRD-15

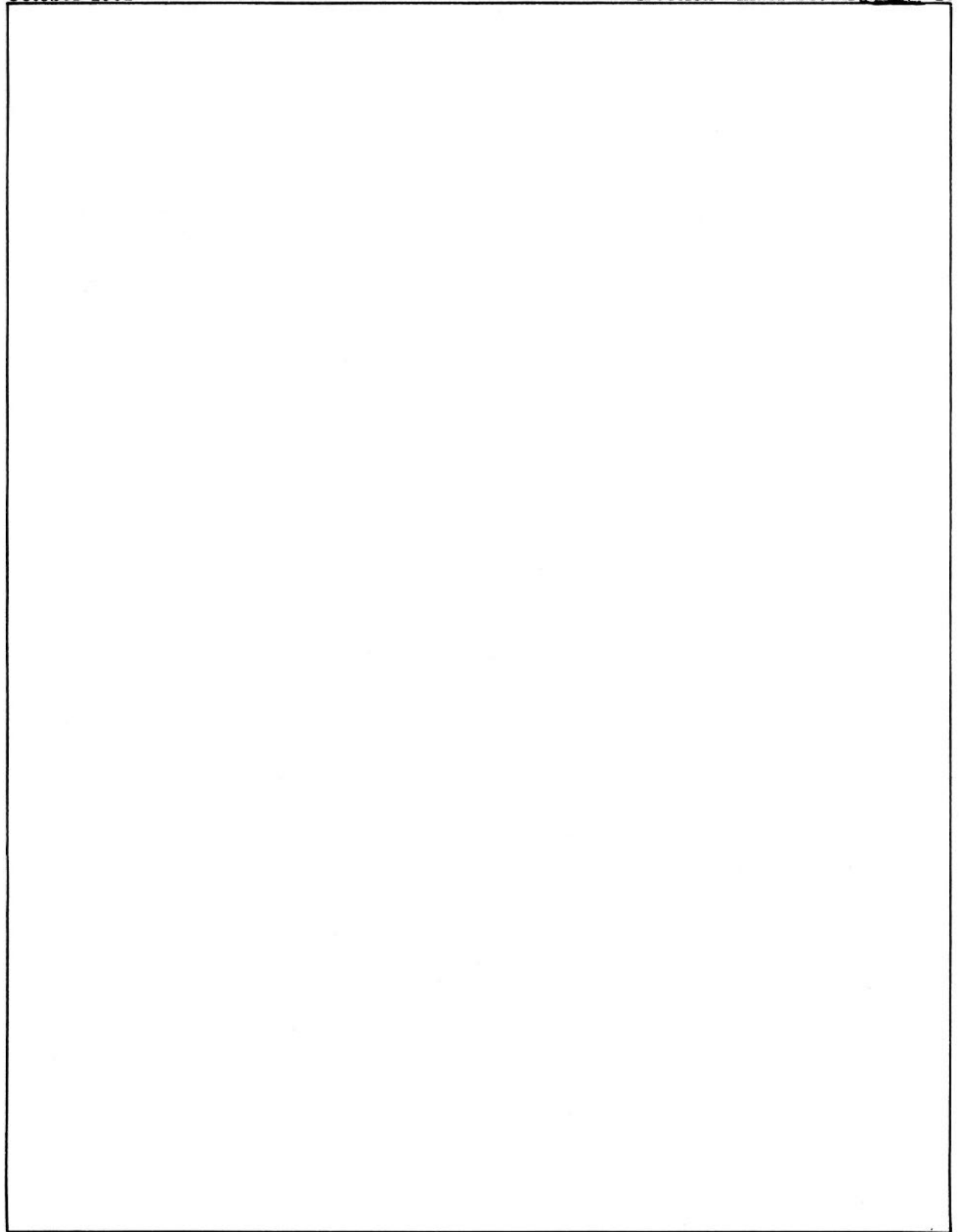
October 1961

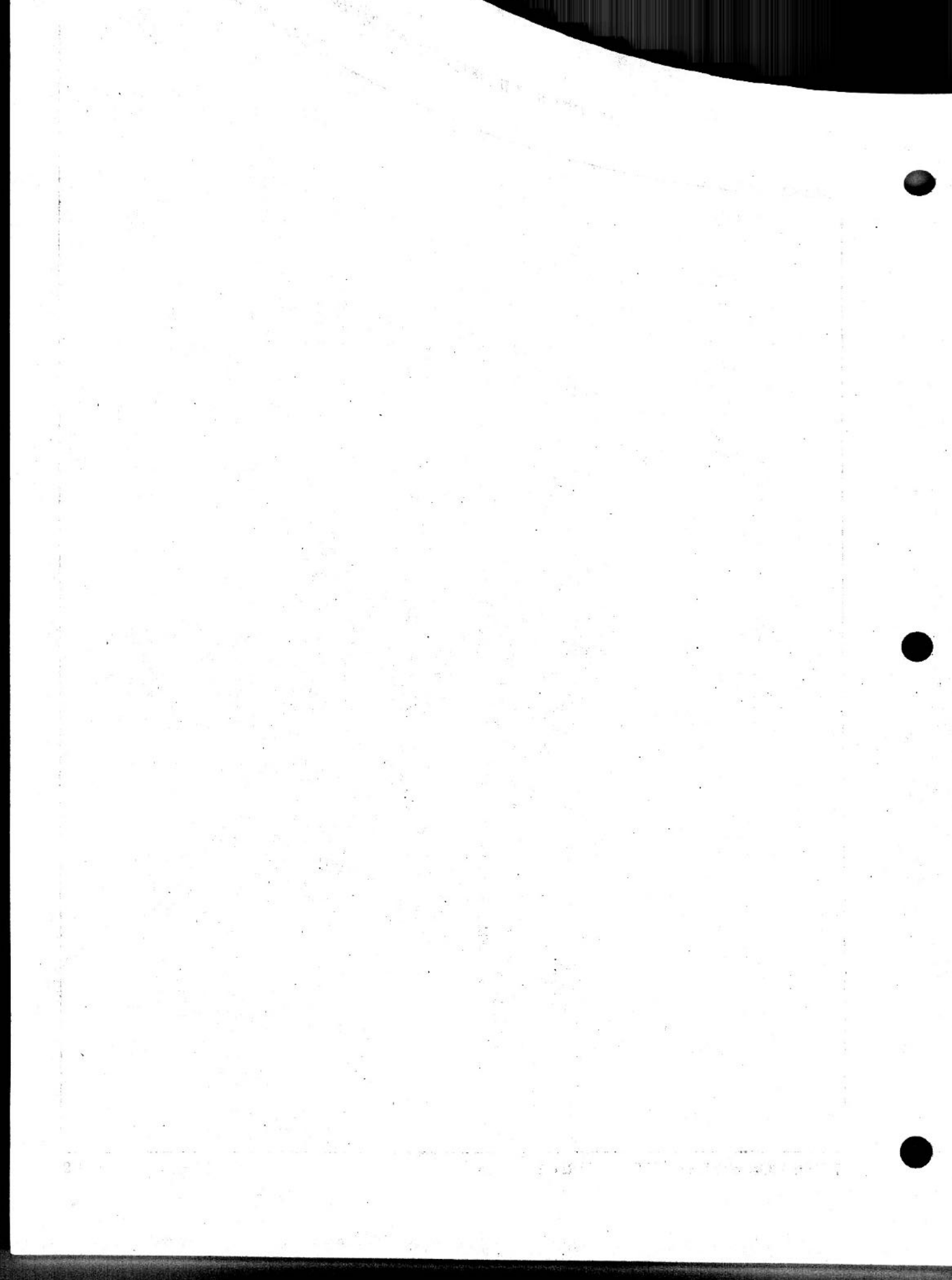
EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
MCO-2005. 59 Sup 2: Elimination of radiation.	R-390/URR	Addition of short piece of wire from pin 2 to pin 7 of tube V603.

DIRECTION FINDER SET AN/MRD-15

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Direction Finder Set AN/MRD-15





DIRECTION FINDER SET AN/PRD-1

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Direction Finder Set AN/PRD-1

GENERAL DATA	MAJOR UNITS
<p>F. S. N: 5825-503-1372                      ID Number: 00087A                      Function: Radio Direction Finder.                      Manufacturer: Andrea Radio Corp.                      Long Island City, N. Y.                      Contracts: 31228-PH-55                      25737-PH-54</p> <p>Approximate price: \$100.00                      Recommended operational checkout interval: <u>DAILY</u></p>	<p>(1) Antenna AS-536/PRD-1                      (1) Antenna AT-301/PRD-1                      (1) Radio Receiver R-395/PRD-1                      (1) Dynamotor Power Supply                      DY-79/PRD-1                      (1) Battery Box CY-947/PRD-1                      (1) Direction Finder Tripod                      MT-870/PRD-1</p>

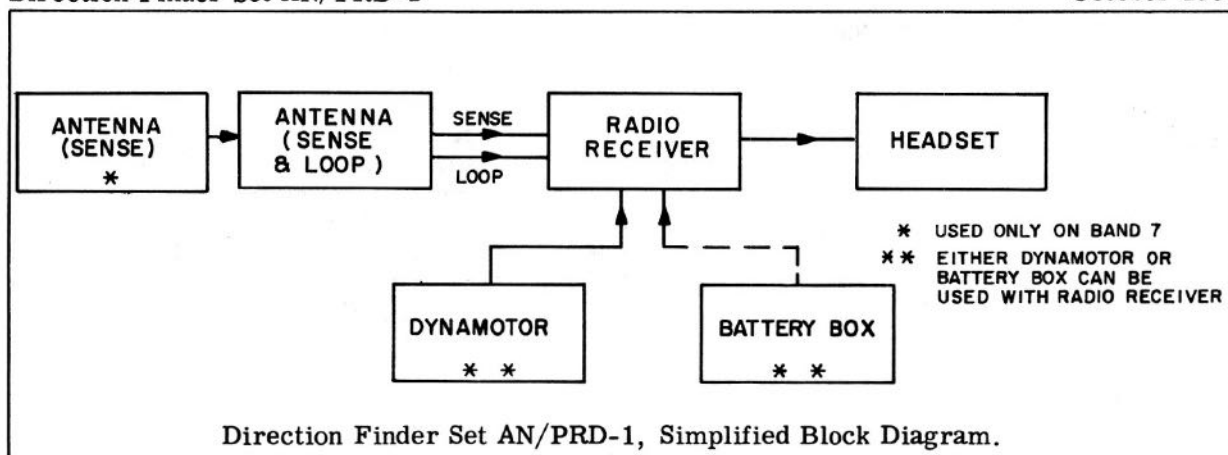


Direction Finder Set AN/PRD-1.

DIRECTION FINDER SET AN/PRD-1

Direction Finder Set AN/PRD-1

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Direction Finder Set AN/PRD-1, Simplified Block Diagram.

OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS																													
<p>Use: The AN/PRD-1 is used to determine the direction of arrival of transmitted radio signals from friendly or enemy sources.</p> <p>Used with:</p> <p>Installation: Mobile/Portable.</p>	<p>Type of signals which can be received: AM, CW, and ICW from 100 KC to 30 MC and FM from 12.5 to 30 MC.</p> <p>Overall selectivity:</p>																													
SIMILAR EQUIPMENTS	<p>Db down from peak response</p>																													
	<table border="1"> <tr> <td></td> <td>Band 4 (1.8 MC)</td> <td>Band 2 (370 KC)</td> </tr> <tr> <td>6</td> <td>2-4 KC</td> <td>4-6 KC.</td> </tr> <tr> <td>20</td> <td>4-6.5 KC</td> <td>7-10 KC.</td> </tr> <tr> <td>40</td> <td>6-9 KC</td> <td>10-15 KC.</td> </tr> <tr> <td>60</td> <td>7-12 KC</td> <td>12-20 KC.</td> </tr> <tr> <td>80</td> <td>8-16 KC</td> <td>16-25 KC.</td> </tr> </table>			Band 4 (1.8 MC)	Band 2 (370 KC)	6	2-4 KC	4-6 KC.	20	4-6.5 KC	7-10 KC.	40	6-9 KC	10-15 KC.	60	7-12 KC	12-20 KC.	80	8-16 KC	16-25 KC.										
	Band 4 (1.8 MC)	Band 2 (370 KC)																												
6	2-4 KC	4-6 KC.																												
20	4-6.5 KC	7-10 KC.																												
40	6-9 KC	10-15 KC.																												
60	7-12 KC	12-20 KC.																												
80	8-16 KC	16-25 KC.																												
TECHNICAL CHARACTERISTICS																														
<p>Overall sensitivity: Field strength in microvolts per meter:</p> <table border="1"> <tr><td>Band 1</td><td>18.</td></tr> <tr><td>Band 2</td><td>12.</td></tr> <tr><td>Band 3</td><td>7.5.</td></tr> <tr><td>Band 4</td><td>6.</td></tr> <tr><td>Band 5</td><td>6.</td></tr> <tr><td>Band 6</td><td>6.</td></tr> <tr><td>Band 7</td><td>7.</td></tr> </table> <p>Bearing accuracy: <math>\pm 1^\circ</math>.</p> <p>Frequency range:</p> <table border="1"> <tr><td>Band 1</td><td>100 to 225 KC.</td></tr> <tr><td>Band 2</td><td>220 to 520 KC.</td></tr> <tr><td>Band 3</td><td>500 to 1,200 KC.</td></tr> <tr><td>Band 4</td><td>1.14 to 2.6 MC.</td></tr> <tr><td>Band 5</td><td>2.5 to 5.8 MC.</td></tr> <tr><td>Band 6</td><td>5.5 to 13 MC.</td></tr> <tr><td>Band 7</td><td>12.5 to 30 MC.</td></tr> </table> <p>Receiver type: Superheterodyne.</p>	Band 1	18.	Band 2	12.	Band 3	7.5.	Band 4	6.	Band 5	6.	Band 6	6.	Band 7	7.	Band 1	100 to 225 KC.	Band 2	220 to 520 KC.	Band 3	500 to 1,200 KC.	Band 4	1.14 to 2.6 MC.	Band 5	2.5 to 5.8 MC.	Band 6	5.5 to 13 MC.	Band 7	12.5 to 30 MC.	<p>FM bandwidth: 34 KC.</p> <p>Audio output: 5.5 volts at 1,000 cycles; output jack terminated with 600 ohms.</p> <p>Power input: Vehicular storage battery, 24 volts, 7 amperes.</p>	
Band 1	18.																													
Band 2	12.																													
Band 3	7.5.																													
Band 4	6.																													
Band 5	6.																													
Band 6	6.																													
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Band 1	100 to 225 KC.																													
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Band 5	2.5 to 5.8 MC.																													
Band 6	5.5 to 13 MC.																													
Band 7	12.5 to 30 MC.																													
	PHYSICAL CHARACTERISTICS																													
	Unit	Overall Weight (in lbs)      Cubic Feet																												
	AN/PRD-1	643 (in 4 packages)      46 (crated)																												

DIRECTION FINDER SET AN/PRD-1

October 1961

Direction Finder Set AN/PRD-1

PUBLICATIONS

D/L Vol I, Direction Finder AN/PRD-1,  
Mar 57.  
SIG M8, Headset Electrical MHS-11, Aug 56.  
SIG 7-8, Finder Set AN/PRD-1, Feb 58.

SL-3-00365A, Headset MHS-11, Jan 61  
TM 11-677, Direction Finder Set AN/PRD-1,  
Oct 55, Ch 1.

DIRECTION FINDER SET AN/PRD-1

Direction Finder Set AN/PRD-1

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MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Alignment and final testing	Signal generator: 100 KC to 29 MC	AN/URM-25A	TS-497( )/U LP-5*	TM-11-677, Chapter 7, paragraphs 132 through 144 and Chapter 8, paragraphs 145 through 163.
	Electronic multimeter: 0.55 to 5.5 volts	TS-505/U	ME-25( )/U	
	Multimeter	TS-352/U	AN/PSM-4A	
	Oscilloscope	OS-8A/U	AN/USM-79* AN/USM-24( )	
	Frequency meter: 100 KC to 13 MC	AN/URM-79	AN/URM-32	
	Frequency meter: 20 to 29 MC	AN/URM-80	AN/URM-32	
	Audio oscillator: 200 to 3500 KC	TS-382( )/U	LO-( )	
Organizational maintenance	Special tools	TE-41		TM 11-677, paragraphs 51 and 52.
Organizational equipment check	Multimeter: 6 VDC	TS-352/U	AN/PSM-4A	TM 11-677, paragraph 66.
	* Non T/A item.			

DIRECTION FINDER SET AN/PRD-1

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Direction Finder Set AN/PRD-1

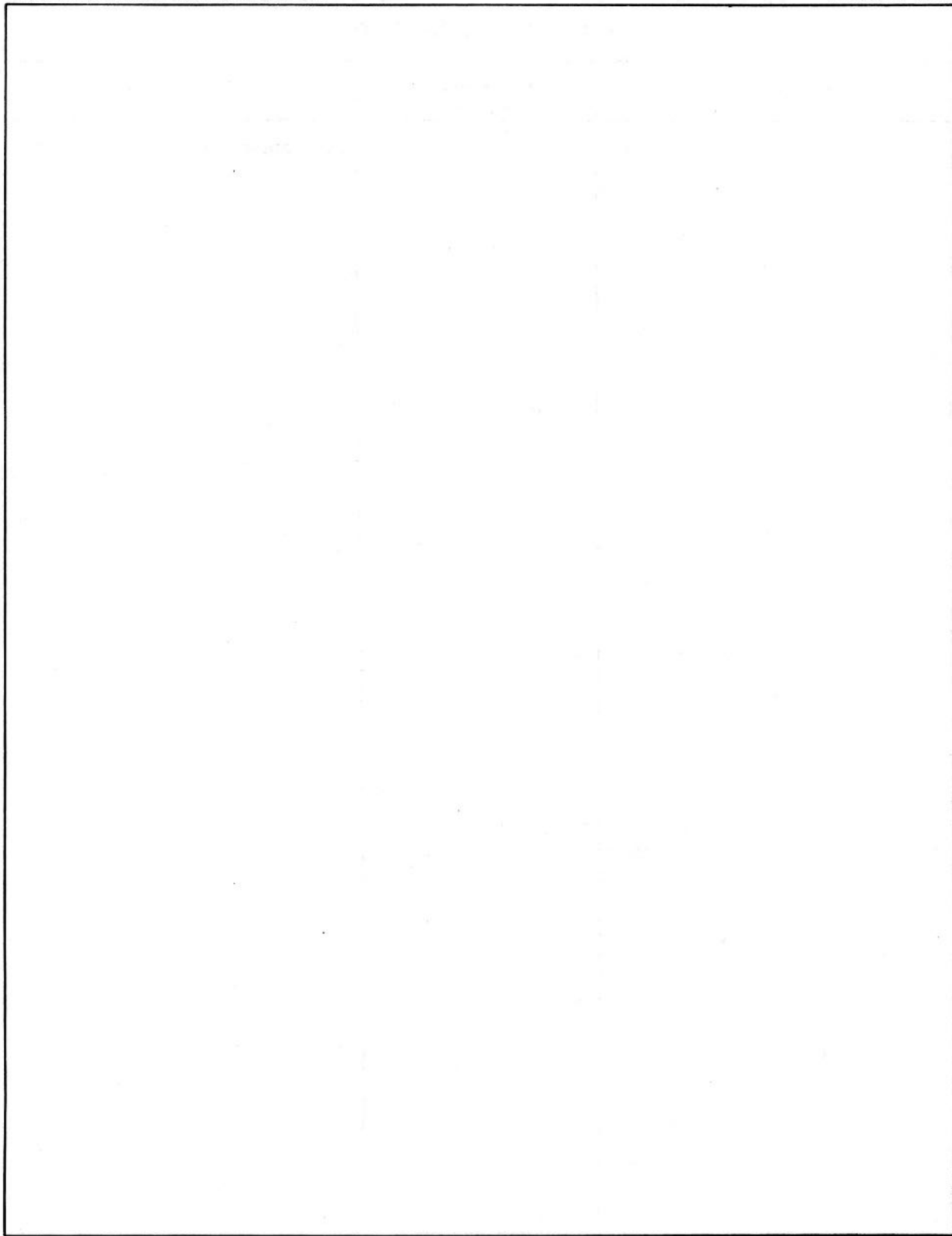
EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
		None authorized.



DIRECTION FINDER SET AN/PRD-1

Direction Finder Set AN/PRD-1

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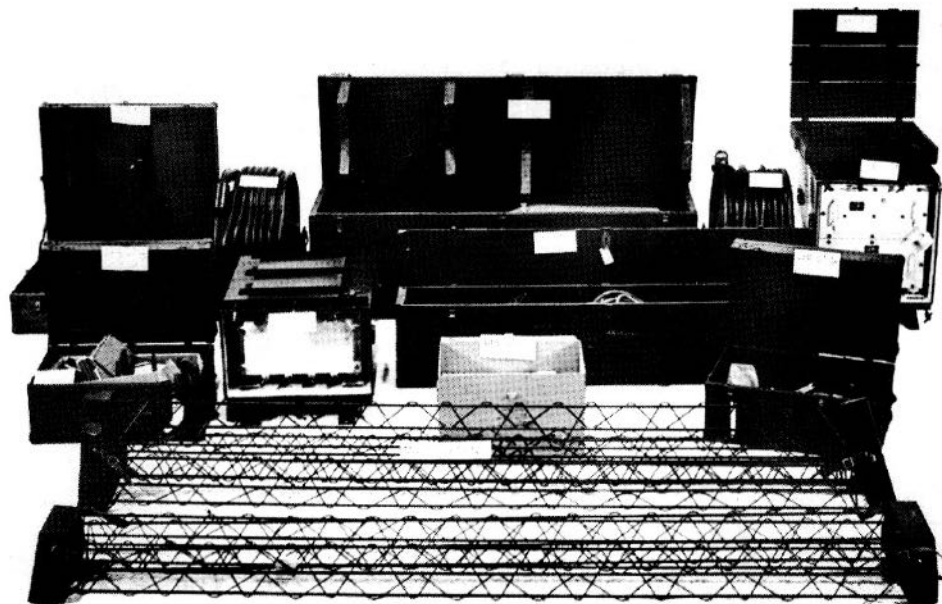


DIRECTION FINDER SET AN/TRD-12

October 1961

Direction Finder Set AN/TRD-12

GENERAL DATA	MAJOR UNITS
<p>F. S. N: 5825-543-0531                      ID Number: 00108A                      Function: Produces a visual indication of the bearing of an RF signal.                      Manufacturer: Bendix Radio Co. Baltimore 4, Maryland.                      Contracts NObsr 52513, 57098, 64563.                      Approximate price: \$32,000.00                      Recommended operational checkout interval: <u>DAILY</u></p>	<p>(1) Antenna AS-514/URD-4                      (1) Indicator IP-93/URD-4                      (1) Mast AB-440/GR                      (1) Receiver Group OA-897/TRD-12                      (1) Hand cable-reeling machine w/40 conductor #20 AWG special purpose cable, terminal fitting each end                      (1) Hand cable-reeling machine w/Mil type CO-40HGF (40/20) 1271 cable, connectors each end                      (2) Steel ground rods, 1/2 inch diameter                      (1) Terminal Box J-306/GR                      (1) Test Set TS-777/URD-4                      (1) Equipment repair parts                      (1) Receiver Radio R-353/URD-4</p>

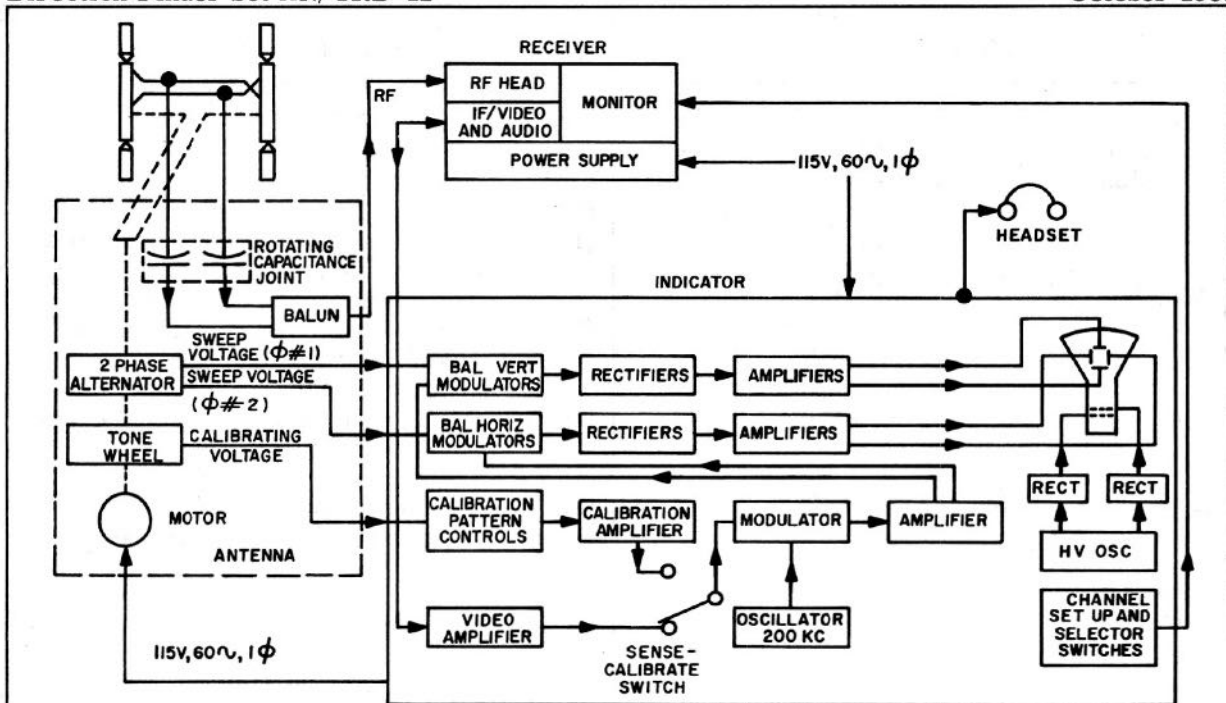


Direction Finder Set AN/TRD-12

DIRECTION FINDER SET AN/TRD-12

Direction Finder Set AN/TRD-12

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Direction Finder Set AN/TRD-12, Overall Functional Block Diagram

OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS		
<p>Use: Direction Finder Set AN/TRD-12 is designed to provide instantaneous visual direction finding information from RF signals in the frequency range from 225.0 to 399.9 MC in 1750 channels. Tuning is accomplished by means of a remote control device which selects any one of 20 preset crystal controlled channels, in order to allow for rapid selection.</p> <p>Used with:</p> <p>Installation: Transportable.</p>	<p>Frequency range: 225.0 to 399.9 MC in 1750 channels spaced 0.1 MC.</p> <p>Preset channels: 20.</p> <p>Frequency control: Crystal.</p> <p>Type of receiver: Superheterodyne.</p> <p>IF frequencies: 15.325 and 2.8072 MC.</p> <p>Type of reception: AM, FM, or unmodulated signals give visual indications.</p> <p>Impedances:                      Antenna: 52 ohms.                      RF input: 52 ohms.</p> <p>Power required: 115 volts, 55 to 65 CPS, single phase.</p>		
SIMILAR EQUIPMENTS	PHYSICAL CHARACTERISTICS		
<p>Direction Finder Set AN/URD-4.                      Direction Finder Set AN/URD-2 is similar but does not provide a visual indication.</p>	Unit	Overall Weight (in lbs)	Cubic Feet
	AN/TRD-12	1162 (in 6 packages)	109 (crated)

DIRECTION FINDER SET AN/TRD-12

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Direction Finder Set AN/TRD-12

PUBLICATIONS

D/L VOL 1, Direction Finder Set  
AN/TRD-12, Jun 58.  
NAVSHIPS 91912A, IB Direction Finder Set  
AN/URD-4, Jan 54, and Ch 1 Apr 55.

NAVSHIPS 91912.51, Maint Print Direction  
Finder Set AN/URD-4.  
NAVSHIPS 98637, FC 3 Direction Finder Set  
AN/URD-4, Nov 55.  
RPL 00108A, Direction Finder Set  
AN/TRD-12, Jun 59.

DIRECTION FINDER SET AN/TRD-12

Direction Finder Set AN/TRD-12

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MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Electrical adjustments	Radio test set	TS-777/URD-4		NAVSHIPS 91912(A), Sections 7-1 through 7-20.
	Multimeter: 0 to 5.5 VDC	AN/PSM-4A	TS-352( )/U	
	Signal generator: 15.325 MC to 399.9 MC	AN/URM-26( )	TS-497( )/URR	
	Wattmeter: 0.6 milliwatts	ME-2/U	TS-585/U*	
	Multimeter	ME-25( )/U	TS-505/U	
Operator's maintenance	No special tools or equipment required			NAVSHIPS 91912(A), Sections 5-1 and 5-2.
	*Non T/A item			

DIRECTION FINDER SET AN/TRD-12

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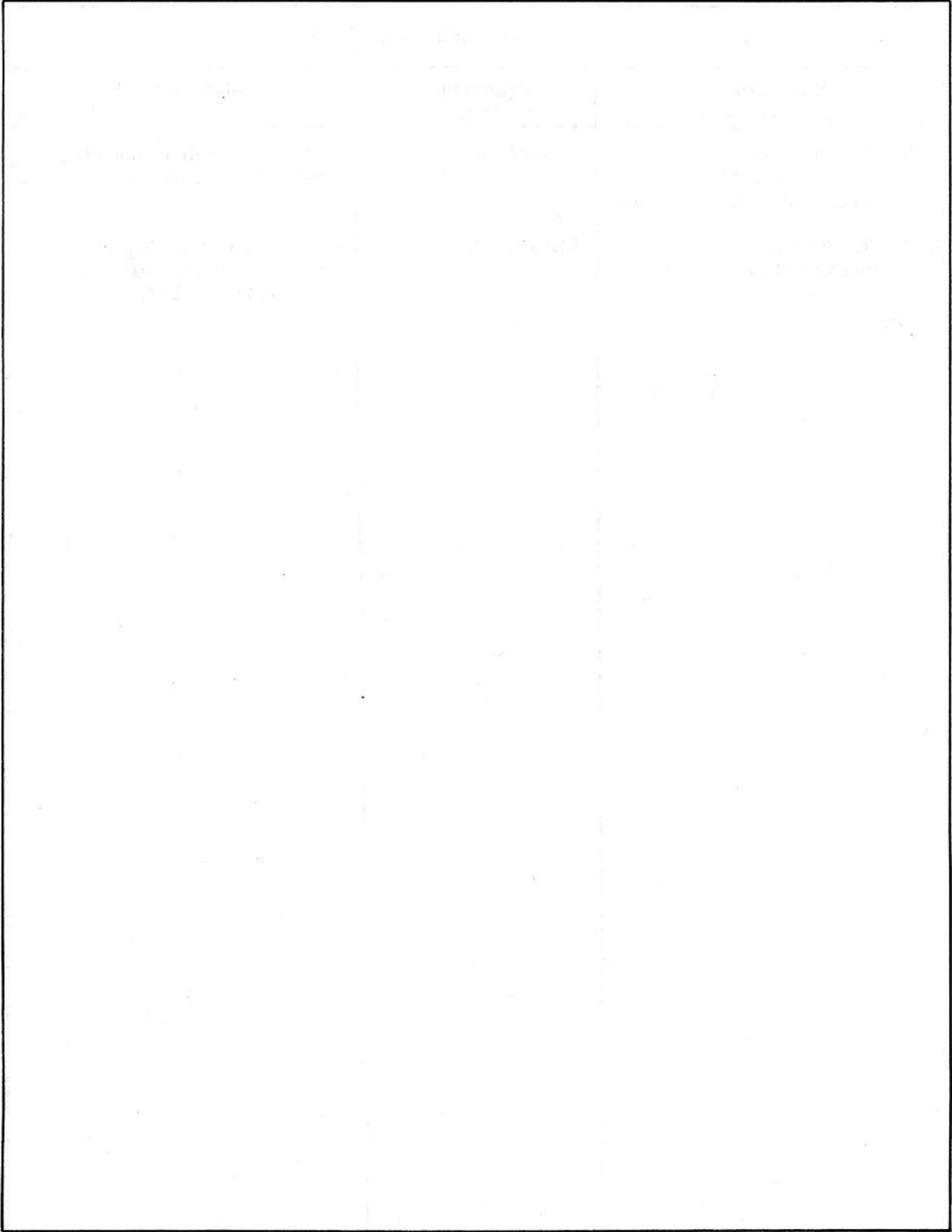
Direction Finder Set AN/TRD-12

EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
MCO 2005. 26 Sup 2: Antenna orientation adjustments and changes of instruction book.	AB-440/GR	Two special reinforcing studs replaced by a clamp.
MCO 2005. 26 Sup 3: Replacement of mast base.	AB-440/GR	Mast base FSN 5985-642-9905 replaced by mast base FSN 5985-532-3867.

DIRECTION FINDER SET AN/TRD-12

Direction Finder Set AN/TRD-12

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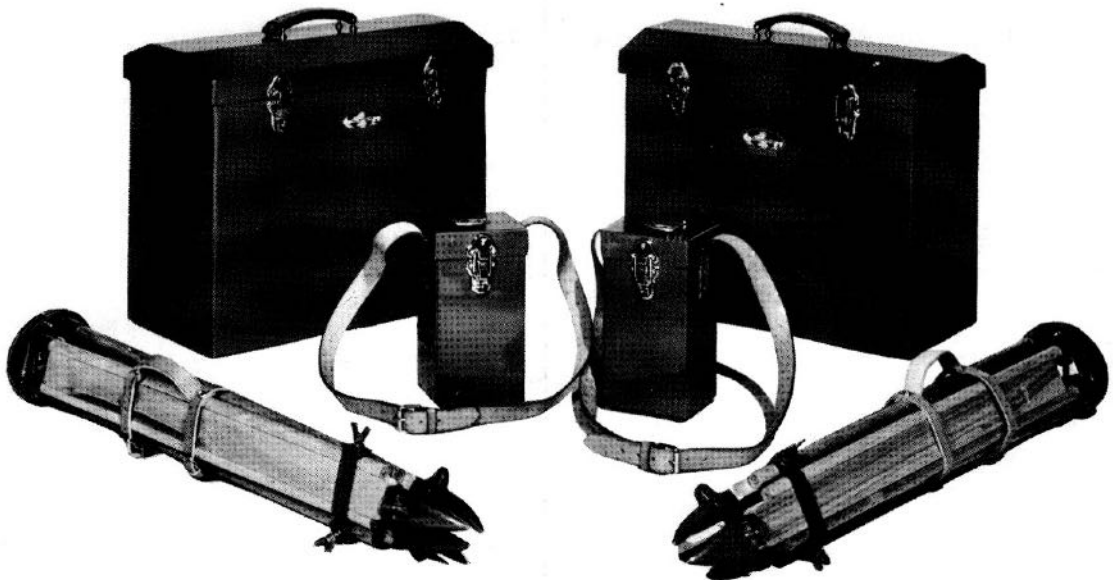


DISTANCE MEASURING SET AN/TRQ-19

October 1961

Distance Measuring Set AN/TRQ-19

GENERAL DATA		MAJOR UNITS	
F. S. N:	5825-647-0003	(1)	Receiver Transmitter RT-495/TRQ-19
ID Number:	01263A	(3)	Cathode Ray Tube Visor, Part 2621
Function:	Distance measurement.	(2)	Receiver Transmitter RT-496/TRQ-19
Manufacturer:	Tellurometer, Inc. Washington, D. C.	(3)	Power Supply
		(3)	Electrical Case, Part 6107
		(3)	Adapter, plate, Part 6107H
Contracts:	NOM 70920	(3)	Sling, Carrying Bag and Case, Part 6107G
		(3)	Surveying Tripod
Approximate price:	\$3, 835. 00	(3)	Surveying Case, Part 16108H. 2
Recommended operational checkout interval:	<u>WEEKLY</u>	(3)	Plumb-bob Assembly, Part 16108DD
		(3)	Tool Kit Assembly, Part 16108BB
		(3)	Sound-powered Handset, Part 5301
		(3)	Storage Battery, 120 amp hour cap. 6 volt
		(3)	Plastic Cover, Part 5804



Distance Measuring Set AN/TRQ-19.



DISTANCE MEASURING SET AN/TRQ-19

Distance Measuring Set AN/TRQ-19

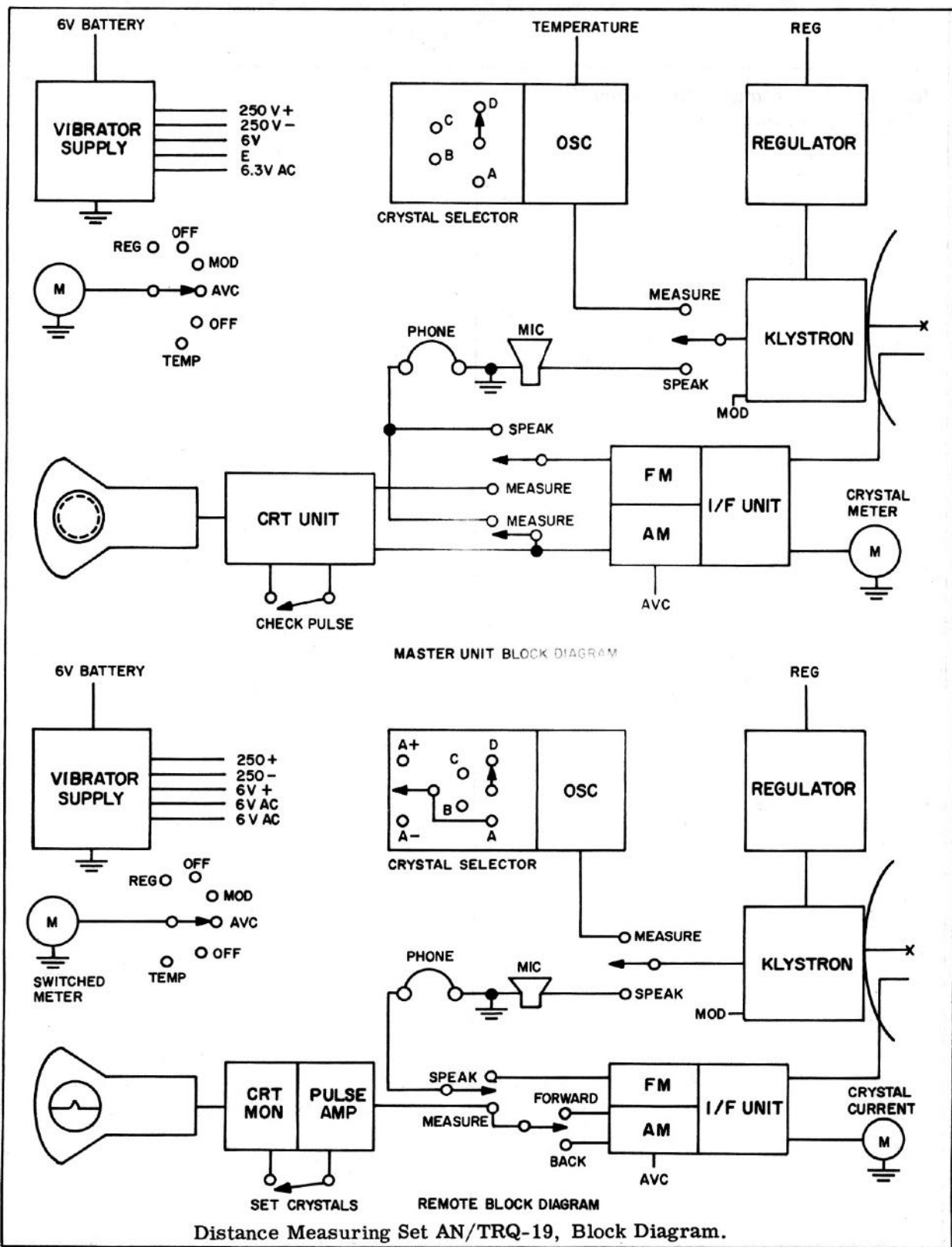
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OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS	
<p>Use: The Tellurometer system of distance measurement is primarily designed to meet the requirements of geodetic accuracy over useful geodetic distances. It may, however, be used for any measurement purposes for which its characteristics make it suitable.</p> <p>Used with:</p> <p>Installation: Portable.</p>	<p>Frequency: 2800 to 3000 MC.</p> <p>Modulation frequency: 10 MC.</p> <p>IF frequency: 33 MC.</p> <p>Maximum range: 35 miles.</p> <p>Minimum range: 500 feet.</p> <p>Radiated power: 100 MW.</p> <p>Power supply: 6 volt battery.</p>	
SIMILAR EQUIPMENTS	PHYSICAL CHARACTERISTICS	
Empty space for similar equipments	Unit	Overall Weight (in lbs)
Empty space for similar equipments	AN/TRQ-19	734 (in 4 packages)
Empty space for similar equipments		Cubic Feet (crated)
Empty space for similar equipments		42.8 (crated)

# DISTANCE MEASURING SET AN/TRQ-19

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Distance Measuring Set AN/TRQ-19



DISTANCE MEASURING SET AN/TRQ-19

Distance Measuring Set AN/TRQ-19

October 1961

PUBLICATIONS

RPL-01263A, Distance Measuring Set  
AN/TRQ-19, Jan 59

DISTANCE MEASURING SET AN/TRQ-19

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Distance Measuring Set AN/TRQ-19

MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Alignment	Multimeter: 0 to 250 VDC	AN/PSM-4A	TS-352( )/U	Handbook of Operation and Field Maintenance, Dec 58.
	Signal generator Audio oscillator Signal generator VTVM	AN/URM-26() TS-382( )/U AN/URM-61 TS-505/U	TS-497/URR LO-( ) ME-25( )/U	
	Note: There are no testing procedures listed in the handbook.			

DISTANCE MEASURING SET AN/TRQ-19

Distance Measuring Set AN/TRQ-19

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EQUIPMENT MODIFICATIONS

Authorization  
and Purpose

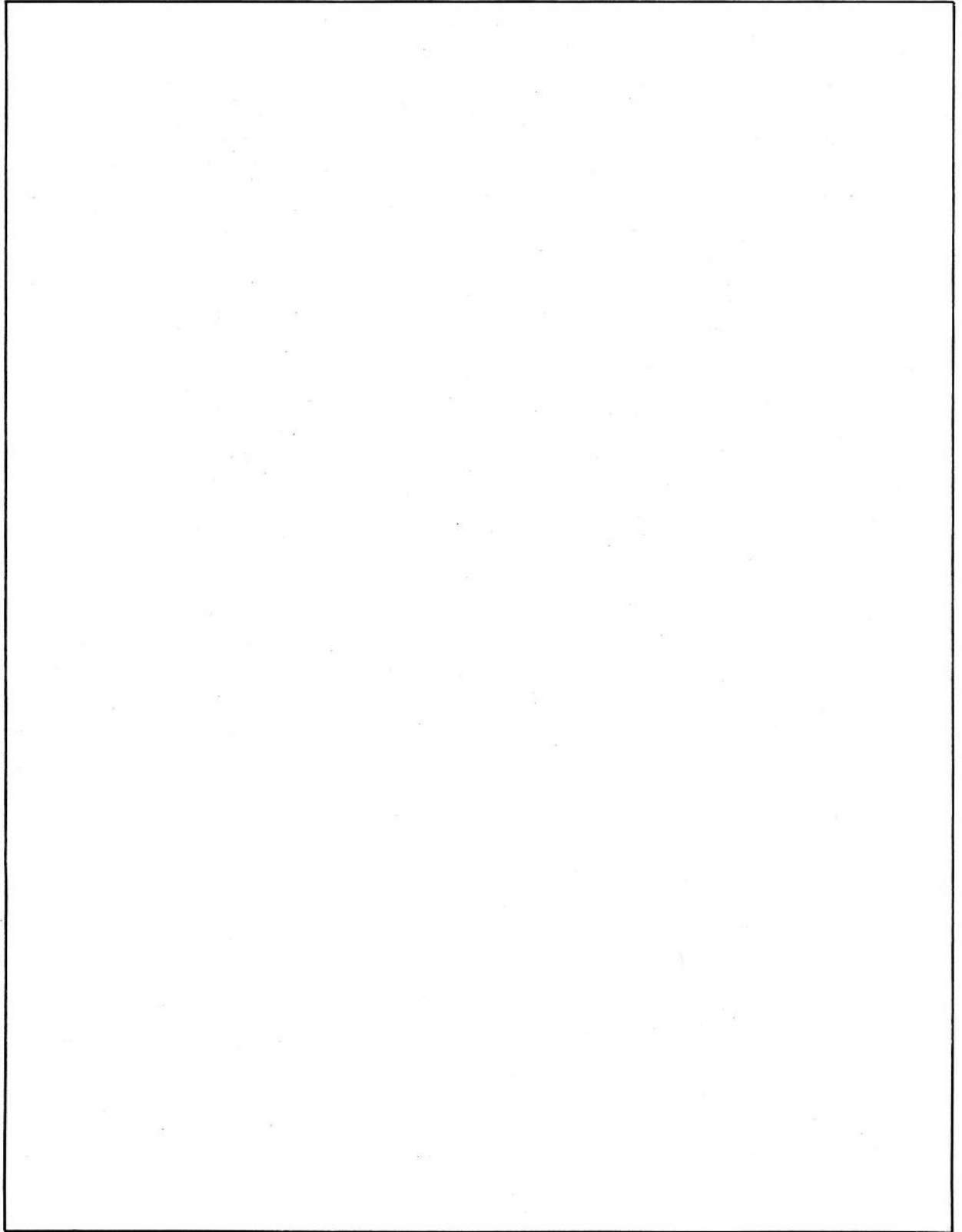
Equipments  
Affected

Identification

No modifications authorized.

October 1961

Distance Measuring Set AN/TRQ-19



UNITED STATES GOVERNMENT

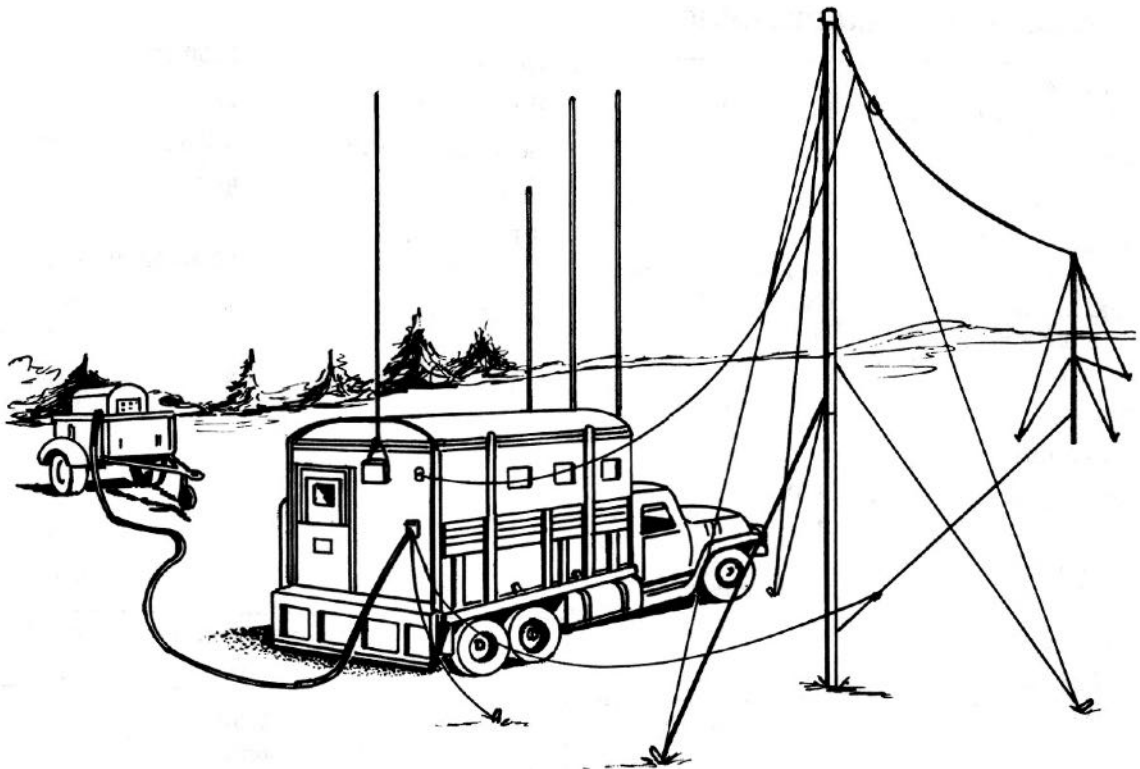
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ELECTRONIC COUNTERMEASURE SET AN/MLQ-16

October 1961

Electronic Countermeasure Set AN/MLQ-16

GENERAL DATA	MAJOR UNITS
<p>F. S. N: 5895-563-3554                      ID Number: 00055A                      Function: Jamming enemy radio communications.                      Manufacturer: Barker and Williamson                      Bristol, Pa.                      Contracts: 3472-PH-52                      MI PR 54-1611                      Approximate price: \$27,000.00                      Recommended operational checkout interval: <u>DAILY</u></p>	<p>(1) Radio Transmitter T-368/URT                      (1) Radio Receiver R-390/URR                      (1) Radio Receiver-Transmitter RT-360/GLQ-2                      (1) Modulator MD-22B/URA-T1                      (1) Antenna Tuning Unit BC-939-B                      (1) Antenna Coupling Unit CU-45/MRQ-2                      (1) Switch Box SA-390/GLQ-2                      (1) Power Unit PE-95                      (1) Radio Set Control C-1455/GLQ-2                      (1) Telephone EE-8                      (1) Radio Receiver R-109/GRC                      (1) Receiver-Transmitter RT-67/GRC                      (1) Power Supply PP-109/GR                      (1) Control Box C-375/VRC                      (1) Amplifier AM-65/GRC</p>



Electronic Countermeasure Set AN/MLQ-16.



ELECTRONIC COUNTERMEASURE SET AN/MLQ-16

Electronic Countermeasure Set AN/MLQ-16

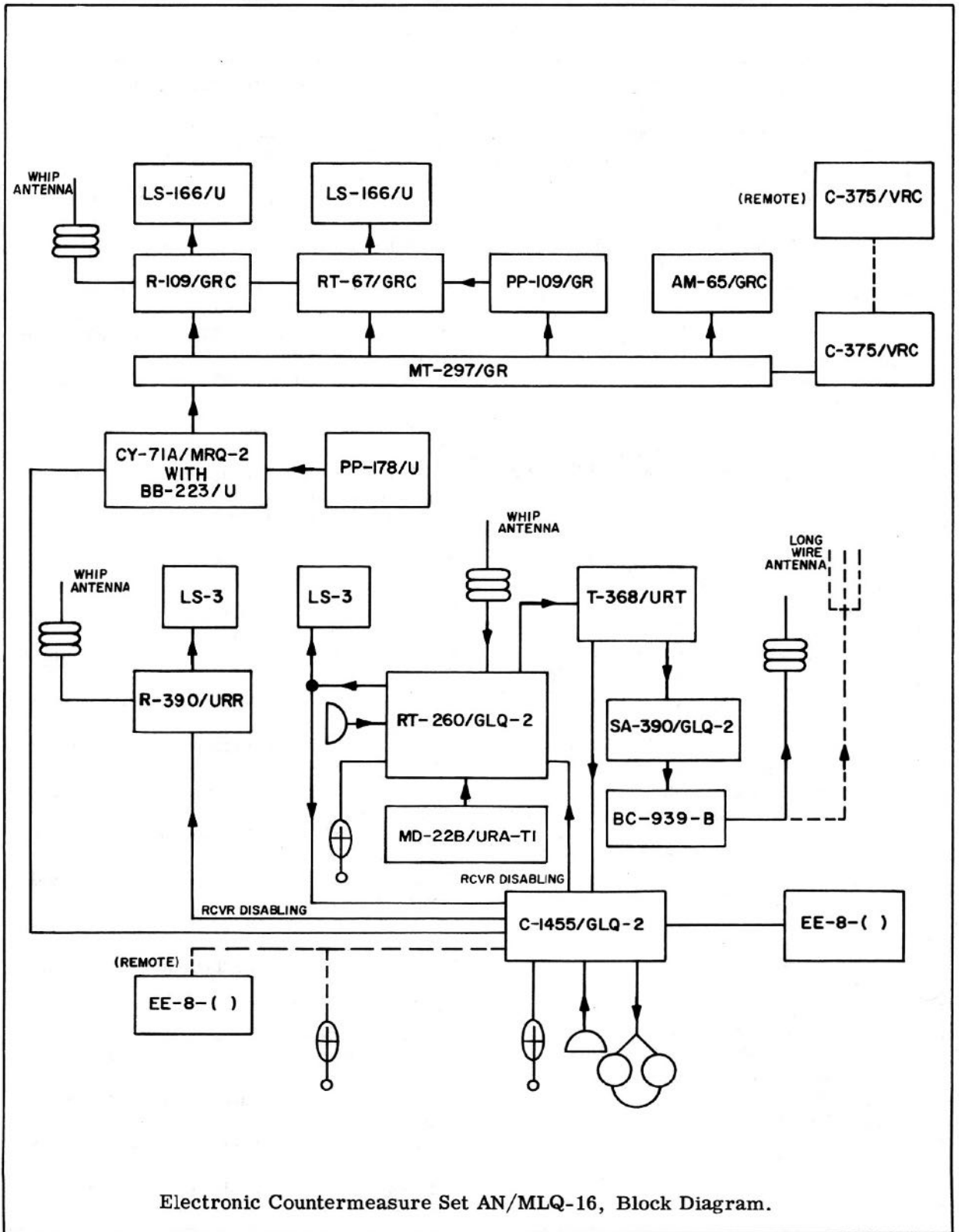
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OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS							
<p>Use: Electronic Countermeasure Set AN/MLQ-16 is used principally for jamming enemy radio communications. The equipment may also be used for conventional two-way radio communications by removing the interference signals.</p> <p>Used with:</p> <p>Installation: Portable/Mobile.</p>	<p>R-109/GRC: Frequency: 27 to 39 MC. Type: Superheterodyne. Signal types: Voice or tone. PP-109: Input voltage: 12.6 DC. Input current: 11.5 amperes R-390/URR: Frequency: 0.5 to 32 MC.</p>							
SIMILAR EQUIPMENTS	<p>Type: Triple conversion superheterodyne.</p>							
	<p>Signal types: CW, MCW, voice, FSK, and composite transmissions.</p> <p>PE-95: Engine type: Gasoline. Cylinders: 4. Speed: 1200 RPM. Horsepower: 19. Generator rating: 5 KW, 115 volts. Power factor: 80%</p>							
TECHNICAL CHARACTERISTICS								
<p>AN/GLQ-2: Transmitter frequency: 1.5 to 20 MC. Power output: 1 watt. Signal types: CW, tone, voice. Receiver: Type: Superheterodyne. Signal types: CW, tone, voice. IF frequency: 465 KC. T-368/URT: Frequency: 1.5 to 20 MC. Signal types: CW and AM. Power output: 450 watts CW. 400 watts AM.</p>	<p>RT-67/GRC: Frequency: 27 to 38.9 MC. Signal types: FM, voice, and 1600-cycle ringing. Power output: 2 watts low power, 16 watts high power.</p>							
<p>AM-65/GRC: Output impedance: 600 ohms. Frequency response: 400 to 2500 CPS. MD-22B/URA-1: Tone frequencies: 525, 700, 650, 575, and 750 CPS. Types of interference: Tone, noise, MCW. Power output: 0.6 watt minimum.</p>	<p style="text-align: center;">PHYSICAL CHARACTERISTICS</p> <table border="1" data-bbox="719 1520 1344 1794"> <thead> <tr> <th data-bbox="719 1520 928 1594">Unit</th> <th data-bbox="928 1520 1165 1594">Overall Weight (in lbs)</th> <th data-bbox="1165 1520 1344 1594">Cubic Feet</th> </tr> </thead> <tbody> <tr> <td data-bbox="719 1594 928 1794">AN/MLQ-16</td> <td data-bbox="928 1594 1165 1794">15230 (mounted in 2-1/2 ton 6x6 truck M35)</td> <td data-bbox="1165 1594 1344 1794">526</td> </tr> </tbody> </table>		Unit	Overall Weight (in lbs)	Cubic Feet	AN/MLQ-16	15230 (mounted in 2-1/2 ton 6x6 truck M35)	526
Unit	Overall Weight (in lbs)	Cubic Feet						
AN/MLQ-16	15230 (mounted in 2-1/2 ton 6x6 truck M35)	526						

ELECTRONIC COUNTERMEASURE SET AN/MLQ-16

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Electronic Countermeasure Set AN/MLQ-16



Electronic Countermeasure Set AN/MLQ-16, Block Diagram.

## ELECTRONIC COUNTERMEASURE SET AN/MLQ-16

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Electronic Countermeasure Set AN/MLQ-16

## PUBLICATIONS

LO 9-8022, Lubrication Order, Aug 57.	SNL G-742 Ord 8, Field and Depot Maint Allowances, Sep 57.
RPL Supp, Headset H-16/U, Apr 58.	SNL G-742 Ord 9, List of All Parts, Jan 55.
RPL Supp, Hydrometer Syringe Battery TS-765/U, Apr 58.	TB Ord 392, Int Lub New Rebuilt Gas Eng B Use, Sep 60.
SIG M8, Countermeasure Set Elec AN/MLQ-16, Jan 58.	TB Ord 460, Liq Cool Eng-Equip Clean-Drain Hole, Jul 52.
SIG M8, Headset Electrical MHS-11, Aug 56.	TB Ord 467, M Series Veh Use Prop Fuel Tank Cap, Aug 52.
SIG M8 Supp, Cord CO-316, Nov 56.	TB Ord 485, M Models Servicing Data Plate Corr, Jan 53.
SIG M8 Supp, Mast Base MP-47, Oct 56.	TB Ord 500, 2-1/2, 5T M Ser Veh Weld Tie-Rod End, Apr 53.
SIG M8 Supp, Mounting MT-297/GR, Feb 57.	TB Ord 524, Installed Metal Tanks Clean-Preserv, Jun 53.
SIG M8 Supp, Radio Receiver R-109/GRC, Jan 57.	TB Ord 598, Operation of Power Plant Heaters, Apr 55.
SIG M8 Supp, Reel RL-39, Sep 56.	TB Ord 616, Tact-Comm Mover-Trlrs Interveh Conn, Aug 56.
SIG 7-8, Antenna Switching Unit SA-24/MRQ-2, Oct 57.	TB 9-245, Stand-Procdr F/Depot Recond Ordmatl, Feb 59.
SIG 7-8, Cord CO-316, Jul 56.	TB 9-248, Rubber Preserv Descript-Application, Sep 58.
SIG 7-8, Headset H-16/U, Jun 57.	TB 9-265, Discontinuance Red Paint Mk Lub Pts, Dec 58.
SIG 7-8, Headset Microphone H-63/U, Apr 57, Ch 2 Mar 58, and Ch 3 Mar 59.	TB 9-282, Combat Veh Protect Insul Comm Equip, Sep 59.
SIG 7-8, Hydrometer Syringe Battery TS-765/U, Mar 55.	TB 9-300-1/1, Combat Veh Inspect-Preserv D/Storage, May 60.
SIG 7-8, Mast Base MP-47, Apr 56.	TB 9-343, Ord Veh Install-Use Overhaul Plates, Apr 60.
SIG 7-8, Mast Base MP-65, MP-65A, and MP-65B, Feb 58.	TB 9-819-16, Correction of Loose Vibration Damp, Mar 53.
SIG 7-8, Microphone M-29/U, Mar 58.	TB 9-1859-3, Time Schedule Guide, Mar 53 and Ch 1.
SIG 7-8, Mounting FT-250, Sep 57.	TB 9-1870-1/1, Care Pneumatic Tires and Inner Tube, Jul 56.
SIG 7-8, Mounting MT-297/GR, Oct 56, Ch 1 Feb 57, Ch 3 Jan 58, and Ch 4 Feb 60.	TB 9-1870-1/2, Pneum Tires Tubes Flaps Inst Unserv, Feb 57.
SIG 7-8, Power Supply PP-621/URR, Feb 57.	TB 9-2300-206-15, Test-Rebuild 100 Amp 28 V Gen System, Nov 58.
SIG 7-8, Radio Receiver R-109/GRC, Sep 56, Ch 3 Mar 58, and Ch 4 Sep 58.	TB 9-2300-228-20, Trouble Shoot F/Ins Cluster Wiring, Jul 60.
SL-3-00365A, Headset MHS-11, Jan 61.	TB 9-2855-8, Installation of Personnel Heater Kt, Jul 54.
SL-3-00671A, Tool Kit Fld Maint 3 Ech Spcl Basic, Apr 60.	TB 9-2855-9, Installation of Power Plant Heater, Jan 55.
SL-3-00682A, Tool Kit Field Maint 3 Ech Supp Gov, Apr 60.	TB 9-2855-10, Installation of Hardtop Close Kit, Jul 53.
SL-3-00685A, Tool Set Carburetor Rpr 3 Thr 5 Ech, Apr 60.	TB 9-2855-41, Installation of Personnel Heater Kt, Dec 56.
SL-3-0196A, Tool Kit Field Maint 4 Ech Supp Gov, Apr 60.	
SL-3-01502A, Tool Kit Org M 2nd Ech Spcl Set B, Apr 60.	
SL-4-00756A/01128A, Generators AN/URA-T1B, AN/URA-T1X, Nov 60.	
SL-4-02908A, Receiver Transmitter RT-67/GRC, Dec 60.	
SNL G-249 Ord 8 V12, Winterization Equipment, Jan 55.	

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## PUBLICATIONS

<p>TB 9-8022-22, 2-1/2 T 6 x 6 M Series Inst Thermostat, Apr 55.</p> <p>TB 9-8022-26, 2-1/2 T M Series Trks Inst Air Gov, Nov 56.</p> <p>TM 9-207, Oper Maint Ordmtl in Extreme Cold, Sep 59.</p> <p>TM 9-236, Military Tactical Vehicles, Sep 60.</p> <p>TM 9-1825B, Electrical Equipment Auto-Lite, Nov 52.</p> <p>TM 9-1827A, Power Brake Sys Bendix-Westinghouse, Feb 53.</p> <p>TM 9-1827C, Brake-Misc Equip Wagner-Lockhead, Jan 53.</p> <p>TM 9-1828, Fuel Pumps, Dec 52 and Ch 1.</p> <p>TM 9-1829A, Ord Maint Speedometers Tachometers, Apr 44.</p> <p>TM 9-1870-1, Care and Maint of Pneumatic Tires, Feb 55 and Ch 1.</p> <p>TM 9-2320-209-20P, Organizational Repair Prts Sp tools, Apr 59 and Ch 1.</p> <p>TM 9-2810, Tact Motor Veh Preventive Maint, Aug 58.</p> <p>TM 9-2853, Prep Ord Mtl F/Deep Water Forging, Jul 45 and Ch 1.</p> <p>TM 9-6140-200-15, Oper-Org F-D Maint Stor Bat Lead-AC, Jul 58.</p> <p>TM 9-8000, Principles of Automotive Vehicles, Jan 56.</p> <p>TM 9-8022, Operation and Organizational Maint, Dec 54, Ch 3, Ch 4 Oct 58, Ch 5 and Ch 6.</p> <p>TM 9-8023-1, Ord Maint Eng Clutch 2-1/2 T 6 x 6 Trk, Mar 57 and Ch 1.</p> <p>TM 9-8023-2, Ord Maint Pwr Train Cab and Chassis, Mar 56 and Ch 1.</p> <p>TM 9-8023-3, Body and Auxiliary Equipment, Oct 55.</p> <p>TM 9-8615, Steering Gears, Jun 53.</p> <p>TM 9-8617, Winches Pwr Takeoff Divider Hyd Eq, May 55.</p> <p>TM 9-8621, Power Train Components, Dec 53.</p> <p>TM 9-8623, Axles and Transfers, Apr 54 and Ch 1.</p> <p>TM 9-8627, Electrical Equipment Delco-Remy, Jun 53 and Ch 1.</p> <p>TM 9-8647, Carburetors, Aug 58.</p> <p>TM 9-8662, Fuel Burn Heat F/Winter Equipment, Mar 54.</p> <p>TM 10-500-20, Air Dly of Supp Equip of Truck M34, Nov 58 and Ch 1.</p>	<p>TM 11-333, Telephone EE-8A, EE-8B, Mar 45 and Ch 1.</p> <p>TM 11-640A, Radio Set AN/GLQ-2, Oct 55, Ch 1 and Ch 2.</p> <p>TM 11-856, Receiver Radio R-390/URR, Jan 55.</p> <p>TM 11-898, Radio Receivers R-108/GRC, R-109/GRC, and R-110/GRC, Jan 56, Ch 1 Mar 56, Ch 2 Jun 57, Ch 5 Oct 60.</p> <p>TM 11-2509, Training Generators AN/URA-T1 and AN/URA-T1A, Jun 44.</p> <p>TM 11-3895-203-12P, Reel Equipment CE-11, Jul 59.</p> <p>TM 11-3895-203-35P, Reel Equipment CE-11, Jul 59.</p> <p>TM 11-5036, Pwr Supplies PP-109/GR, PP-109A/GR, PP-112/GR, PP-112A/GR, Dec 54, Ch 1, Ch 2, and Ch 3.</p> <p>TM 11-5039, AF Amplifiers AM-65/GRC, AM-65A/GRC, Jan 51.</p> <p>TM 11-5040, Pwr Supplies PP-281/GRC, PP-281A/GRC, PP-282/GRC, PP-282A/GRC Nov 50, Ch 1 Dec 51, and Ch 2.</p> <p>TM 11-5410-200-12P, Shelters S-56/G, S-56A/G, Aug 58.</p> <p>TM 11-5410-200-35P, Shelters S-56/G, S-56A/G, Aug 58.</p> <p>TM 11-5519, Battery Charger PP-178/U, Mar 51.</p> <p>TM 11-5805-200-12P, Telephone EE-8, EE-8A, EE-8B, EE-8C, EE-8D, and EE-8E Jul 59.</p> <p>TM 11-5805-200-35P, Telephone EE-8, EE-8A, EE-8B, EE-8C, EE-8D, and EE-8E, Jul 59.</p> <p>TM 11-5805-272-12P, Generator GN-38, GN-38A, and GN-38B, Jul 59.</p> <p>TM 11-5805-272-35P, Generator GN-38, GN-38A, and GN-38B, Aug 59.</p> <p>TM 11-5820-210-10P, Power Supplies PP-281/GRC, Feb 60.</p> <p>TM 11-5820-210-20P, Power Supplies PP-281/GRC, Feb 60.</p> <p>TM 11-5820-210-35P, Power Supplies PP-281/GRC, PP-281A/GRC, Dec 59.</p> <p>TM 11-5820-211-10P, Radio Set AN/GLQ-2, May 59.</p> <p>TM 11-5820-211-20P, Radio Set AN/GLQ-2, May 59.</p> <p>TM 11-5820-211-35P, Radio Set AN/GLQ-2, Jun 59.</p>
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## ELECTRONIC COUNTERMEASURE SET AN/MLQ-16

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## PUBLICATIONS

TM 11-5820-257-12P, Antenna Tuning Unit BC-939, BC-939A, and BC-939B, Apr 60.	TM 11-5965-202-35P, Handsets H-33E/PT, and H-33F/PT, Jan 61.
TM 11-5820-257-35P, Antenna Tuning Unit BC-939, BC-939A, and BC-939B, Apr 60.	TM 11-5965-216-15P, Handset TS-9-F, Dec 59.
TM 11-5820-281-10P, AF Amplifiers AM-65/GRC, and AM-65A/GRC, May 59.	TM 11-5965-222-15P, Dynamic Loudspeaker LS-166/U, Jul 59.
TM 11-5820-281-20P, AF Amplifiers AM-65/GRC, and AM-65A/GRC, May 59.	TM 11-5965-225-12P, Chest Set Group AN/GSA-6, Apr 59.
TM 11-5820-281-35P, AF Amplifiers AM-65/GRC, and AM-65A/GRC, May 59.	TM 11-5965-225-35P, Chest Set Group AN/GSA-6, Apr 59.
TM 11-5820-316-10P, Power Supplies PP-109/GR, and PP-109A/GR, Oct 59.	TM 11-5985-220-10P, Antenna Assembly AS-93/MRQ-2, Apr 59.
TM 11-5820-316-20P, Power Supplies PP-109/GR, and PP-109A/GR, Oct 59.	TM 11-5985-220-20P, Antenna Assembly AS-93/MRQ-2, Apr 59.
TM 11-5820-316-35P, Power Supplies PP-109/GR, and PP-109A/GR, Oct 59.	TM 11-5985-220-35P, Antenna Assembly AS-93/MRQ-2, Apr 59.
TM 11-5820-322-12P, Junction Boxes JB-60, and JB-60A, Mar 60.	TM 11-6130-217-12P, Battery Charger PP-178/U, May 59.
TM 11-5820-322-35P, Junction Boxes JB-60, and JB-60A, Mar 60.	TM 11-6130-217-35P, Battery Charger PP-178/U, May 59.
TM 11-5820-357-20, Receiver Radio R-390/URR, Mar 61.	TM 21-300, Driver Selection and Training, Dec 58.
TM 11-5820-357-20P, Receiver Radio R-390/URR, Nov 59.	TM 21-305, Manual for Wheeled Vehicle Driver, Dec 56 and Ch 1.
TM 11-5820-357-35P, Receiver Radio R-390/URR, Nov 59.	TM 1124O-1, USMC Tm Tactical Mt Veh Prev Maint, Feb 61.
TM 11-5830-203-12P, Intercom Set C-375/VRC, Dec 58.	
TM 11-5830-203-35P, Intercom Set Control C-375/VRC, Jan 59.	
TM 11-5920-201-12P, Fuse Box MX-154/MRQ-2, May 59.	
TM 11-5920-201-35P, Fuse Box MX-154/MRQ-2, May 59.	
TM 11-5965-202-12P, Handset H-33/PT, Apr 59.	
TM 11-5965-202-35, Handset H-33/PT, May 59.	

## ELECTRONIC COUNTERMEASURE SET AN/MLQ-16

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Electronic Countermeasure Set AN/MLQ-16

MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
AN/GLQ-2 Organizational maintenance	Tool equipment	TE-41		TM 11-640A, para- graphs 40 through 57.
	Multimeter	TS-297/U	AN/PSM-4A	
	Tube test set	TV-7/U	TV-3( )/U*	
AN/GLQ-2 Alignment and final testing.	Signal generator: 465 KC and 20 MC	AN/URM-25	LP5*	TM 11-640A, para- graphs 114 through 125.
	Frequency meter: 465 KC and 20 MC	FR-67/U	HP-524D* AN/URM-32	
	Multimeter: 0 to 115 VAC	TS-352( )/U	AN/PSM-4A	
	VTVM: 5 uv to 15 VAC	ME-30( )/U	ME-6( )/U	
	Oscilloscope	OS-8( )/U	AN/USM-24( )	
	VTVM: 0 to 25 VAC	TS-505( )/U	ME-25( )/U	
	Dummy load	1000-ohm 2-watt carbon resistor		
T-368/URT Organizational maintenance	Panoramic indicator	IP-173/U		TM 11-809, paragraphs 38 through 52.
	Multimeter	TS-297/U	AN/PSM-4A	
T-368/URT Alignment and final testing.	Tube tester	TV-7/U	TV-3( )/U	TM 11-809-35, para- graphs 36 through 56.
	Signal generator: 1000-CPS	TS-382( )/U	LO-( )	
	Frequency meter: 1.5 to 3 MC	AN/URM-32	SCR-211	
	Oscilloscope	OS-8( )/U	AN/USM-24( )	
	Spectrum analyzer	TS-723/U		
	Test set: 22 dot cycles	100-A		
	Voltmeter: 0 to 10 VDC	TS-352( )/U	AN/PSM-4A	
	* Non T/A item			

## ELECTRONIC COUNTERMEASURE SET AN/MLQ-16

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MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
T-368/URT Alignment and final testing	Ammeter: 425 to 550 ma DC	AN/PSM-4	ME-25/U	TM 11-2509A, para- graphs 21 through 32.
	Wattmeter: 400 to 470 watts	AN/URM-86	ID-825/U	
	Output meter	TS-858( )/U	ME-30( )/U	
AN/URA-T1B Organizational maintenance	Tool equipment	TE-41		
	Tube test set	TV-7/U	TV-3( )/U*	
	Multimeter	TS-297/U	AN/PSM-4A	
AN/URA-T1B Final testing	Multimeter: 0 to 210 VDC	TS-352( )/U	AN/PSM-4A	TM 11-2509A, para- graphs 53 through 56.
	VTVM: 0 to 0.25 VAC	ME-6( )/U	ME-30( )/U	
	* Non T/A item			
	NOTE: For mainten- ance requirements pertaining to the AM-65/GRC, the PP-109, and the RT-67/GRC refer to the AN/GRC-5 sec- tion of this manual.			

ELECTRONIC COUNTERMEASURE SET AN/MLQ-16

Revised  
April 1962

Electronic Countermeasure Set AN/MLQ-16

EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
		No modifications authorized.



**Electronic Counter m**



GENERATOR SET PU-239( )/G

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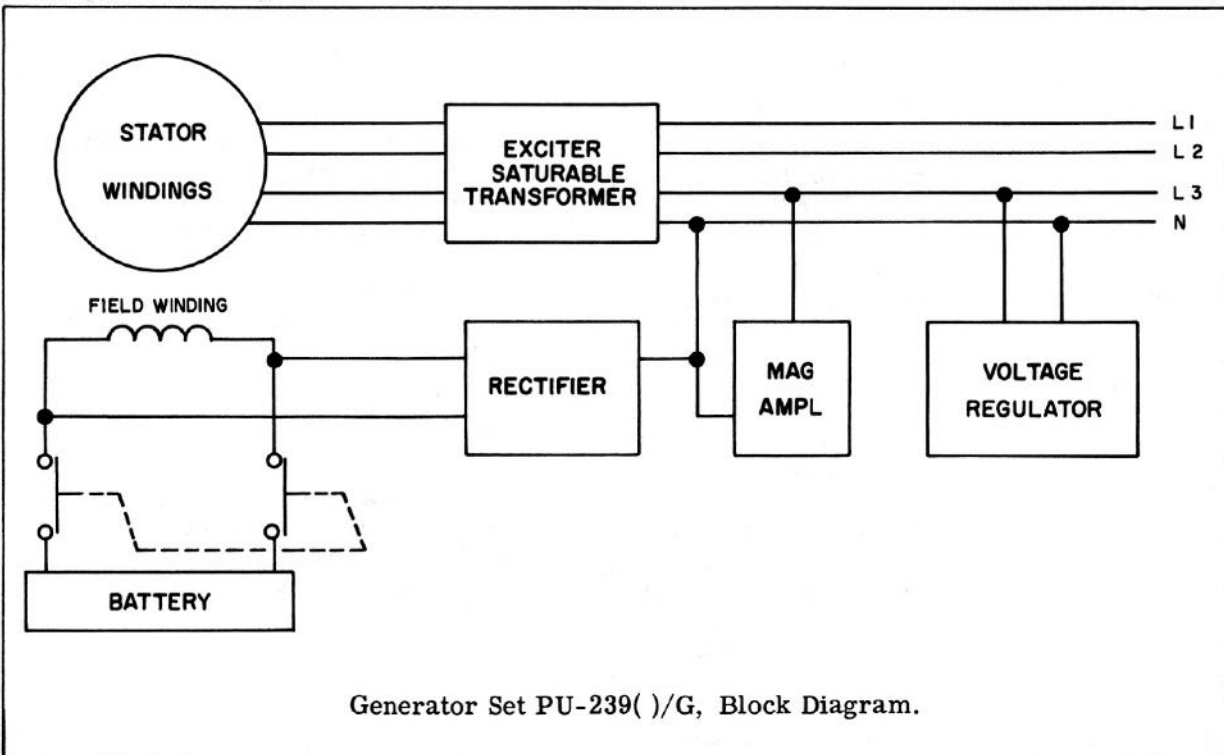
Generator Set PU-239( )/G

GENERAL DATA	MAJOR UNITS
<p><b>F. S. N:</b> 6115-508-1546, PU-239D/G 6115-590-0705, PU-239E/G 6115-624-4499, PU-239F/G</p> <p><b>ID Number:</b> 00258E, PU-239D/G 00258F, PU-239E/G 00258G, PU-239F/G</p> <p><b>Function:</b> Power source.</p> <p><b>Manufacturer:</b> Libby Welding Co. Kansas City, Mo. West Coast Engines, Berkely, Calif. Stewart and Stevenson, Houston, Texas Stewart Steel Products, Brooklyn, N. Y. Consolidated Diesel, Stamford, Conn.</p> <p><b>Contracts:</b> Libby - 60469, 69534; West Coast Engines - 62603; Stewart and Stevenson - 65455, 70194; Stewart Steel - 66246; Consolidated Diesel - 67700.</p> <p><b>Approximate price:</b> \$4500. 00</p> <p><b>Recommended operation checkout interval:</b> <u>BI-WEEKLY</u> (under load)</p>	<p>Engine PU-239D/G (1) Detroit Diesel Engine Division GMC, Model 2055, Series 2-71 Generator PU-339D/G (1) Kato Engineering Co., Model M53M5X4 Engine PU-239E/G (1) Detroit Diesel Engine Division GMC, Model 2913 Generator (1) Kato Engineering Co., Model M53M5X4 Engine PU-239F/G (1) Detroit Diesel Engineering Division, Model 2913, Series 2-71 Generator (1) American Marc, Model KBA 620</p>

GENERATOR SET PU-239( )/G

Generator Set PU-239( )/G

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Generator Set PU-239( )/G, Block Diagram.

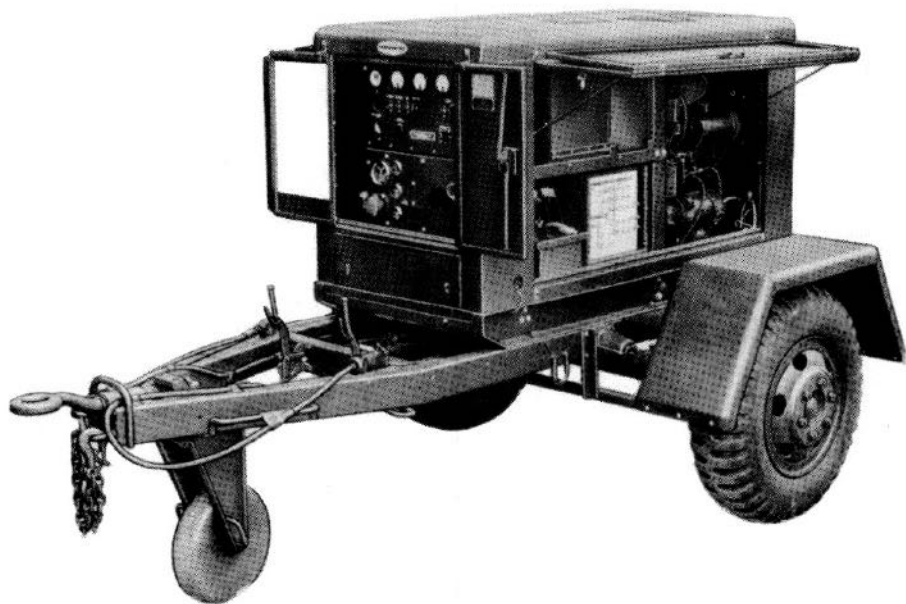
OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS
<p>Use: Diesel Engine Generator Set, PU-239D/G is a trailer mounted diesel Generator Set, consisting of a two-cylinder, two-cycle diesel engine prime mover, an AC generator mechanically direct connected to the diesel engine, a switchboard, accessories and other equipment. It is a self-contained unit capable of functioning under severe military conditions for long periods of time without overhaul.</p> <p>Used with: Radar Sets AN/MPS-11, AN/TPS-28, AN/MTQ-4, and AN/MRC-30.</p> <p>Installation: Mobile.</p>	<p>PU-239( )/G:</p> <p>Engine Data:</p> <p>Type: Diesel 2 stroke-cycle.</p> <p>Cylinders: 2.</p> <p>Horsepower: 42 bhp at 1800 RPM.</p> <p>Start volts: 24 volts.</p> <p>Cooling system: 4.5 gal.</p> <p>Oil Capacity: 11 qt.</p> <p>Fuel capacity: 16 gal.</p> <p>Generator Data:</p> <p>Frequency: 60 CPS.</p> <p>PU-239D/G:</p> <p>20 KW, 120/208V, 3 phase, 4 wire (wye).</p> <p>20 KW, 240/416V, 3 phase, 4 wire (wye)</p> <p>20 KW, 120/240V, 3 phase, 3 wire (delta).</p> <p>13 KW, 120/240V, 1 phase, 2 wire.</p>
<p>SIMILAR EQUIPMENTS</p>	
<p>Generator Set PU-347( )/G, Generator Set PU-482( )/G. These equipments are skid-mounted and diesel powered, and are similar only in that they provide 60-cycle power.</p>	

# GENERATOR SET PU-239( )/G

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Generator Set PU-239( )/G

TECHNICAL CHARACTERISTICS		PHYSICAL CHARACTERISTICS		
<b>PU-239E/G:</b>	20 KW, 120/208V, 3 phase, 4 wire (wye). 20 KW, 240/416V, 3 phase, 4 wire (wye).	Unit	Overall Weight (in lbs)	Cubic Feet
		<b>PU-239D/G</b>	5650 (trailer mounted)	779
		<b>PU-239E/G</b>	5650 (trailer mounted)	779
<b>PU-239F/G:</b>	20 KW, 120/208V, 3 phase, 3 wire (delta). 20 KW, 240/416V, 3 phase, 3 wire (delta).	<b>PU-239F/G</b>	5650 (trailer mounted)	779



Generator Set PU-239( )/G.

GENERATOR SET PU-239()/G

Generator Set PU-239()/G

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PUBLICATIONS

NAVMC ELECT 2021, Generator Set Diesel Engine PU-239D/G.

RPL-00258A through F, Generator Sets PU-239/G and PU-239A/G through PU-239E/G, Apr 59, Ch 1 Jul 60, and Ch 2 Nov 61.

SL-3-00258E, Generator Set D/E Trl Mtd PU-239D/G, Oct 60 and Ch 1 Jul 61.

NAVMC ELECT 2023, Generator Set Diesel Engine PU-239E/G.

SL-3-00258F, Generator Set D/E Trl/Mtd PU-239E/G, Dec 60.

NAVMC ELECT 2035, Generator Set Diesel Engine PU-239F/G, Sep 59.

SL-3-00258G, Generator Set Diesel Engine PU-239F/G, Dec 60 and Ch 1 Apr 61.

SL-4-00258G, Generator Set Diesel Engine PU-239F/G, Jun 60.

GENERATOR SET PU-239( )/G

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Generator Set PU-239( )/G

MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
PU-239D/G and PU-239E/G Corrective maintenance	Multimeter: 38.47 to 174.7 ohms	AN/PSM-4A	TS-352( )/U	NAVMC ELECT 2001, paragraphs 6.3 and 6.4.
	Armature test set (motor transport item)	ID-614A		
	Megger: 1.3 to 30 megohms	AN/PSM-2A	TS-27/TSM	
PU-239F/G Corrective maintenance	Megger: 1 megohm	AN/PSM-2A	TS-27/TSM	NAVMC ELECT 2035, paragraphs 8.30 through 8.34.
	Multimeter: 3.1 to 350 ohms	AN/PSM-4A	TS-352( )/U	

GENERATOR SET PU-239( )/G

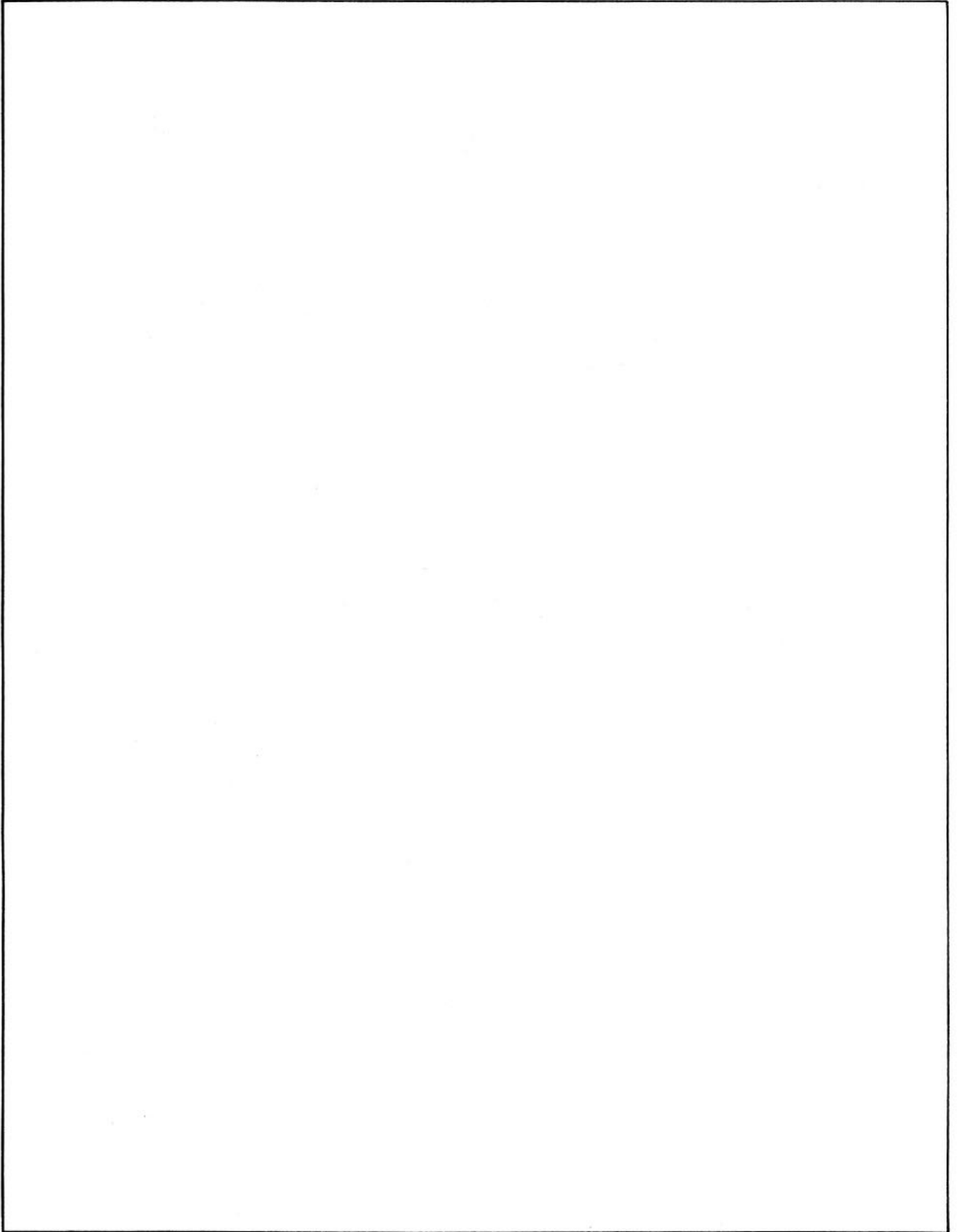
Generator Set PU-239( )/G

October 1961

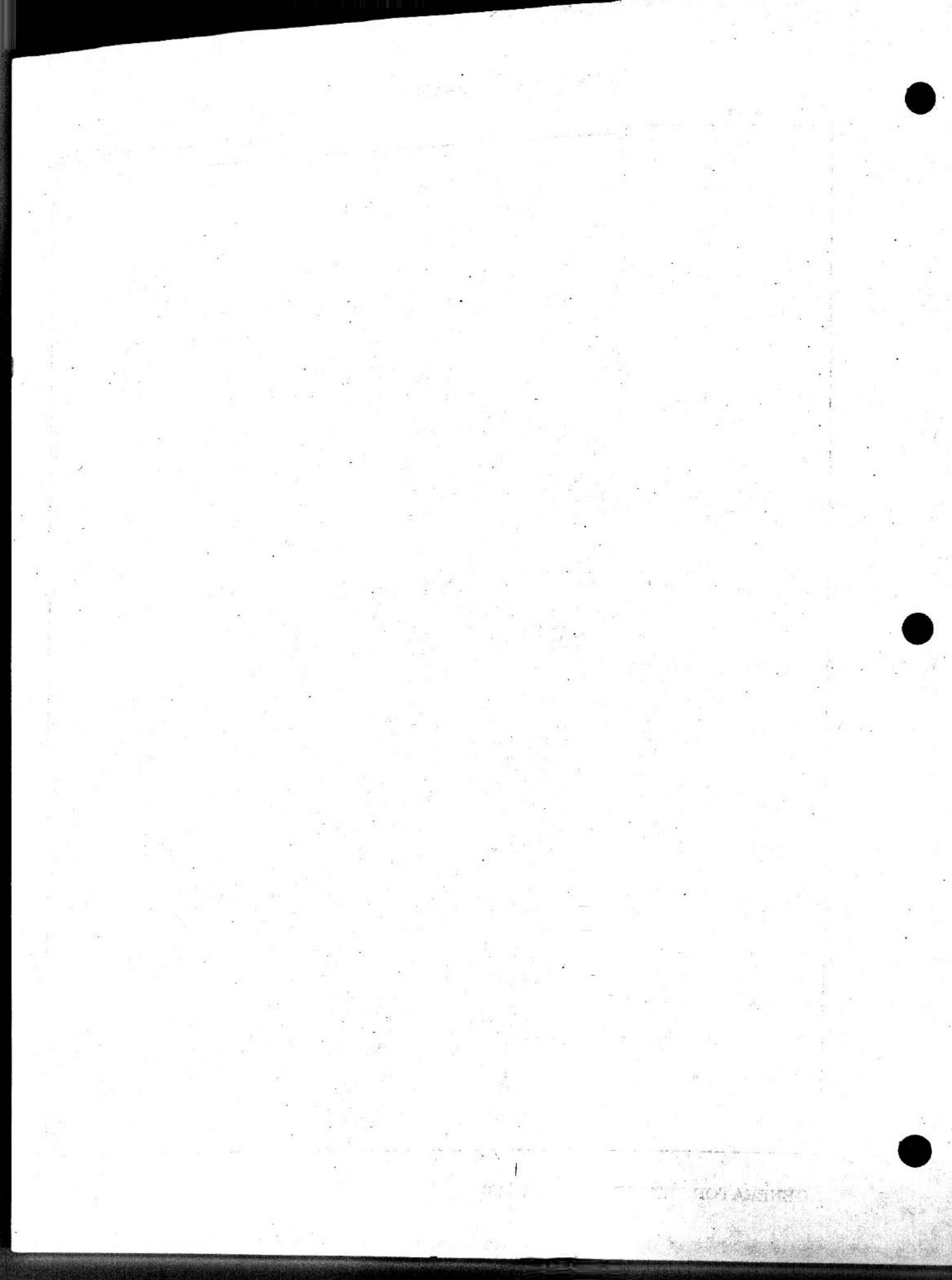
EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
MCO 2005. 64 Sup 2: Installation of governor control rod front support.	PU-239D/U Consolidated Diesel-Electronic Corporation, Model 4009 only.	Addition of a support bracket on engine block.
MCO 2005. 64 Sup 3: Modification of side panels.	PU-239F/G	Addition of new handles on side panels.
MCO 2005. 64 Sup 4: Addition of a cable kit.	PU-239E/G	Cable case mounted on trailer frame.
MCO 2005. 64 Sup 4 Ch 1: Addition of a cable kit.	PU-239E/G	Pen and ink change to basic supplement, change stock number 6115-754-5480 to 6115-754-5840.

October 1961

Generator Set PU-239( )/G





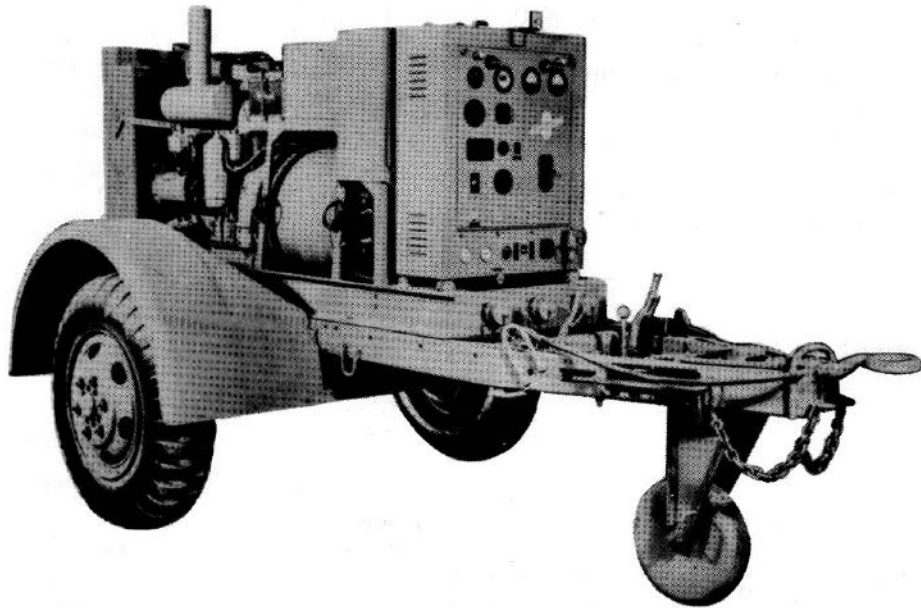


GENERATOR SETS PU-296/G AND PU-296A/G

October 1961

Generator Sets PU-296/G and PU-296A/G

GENERAL DATA		MAJOR UNITS
F. S. N:	6115-542-6339 PU-296/G 6115-822-2273 PU-296A/G	PU-296/G (1) Engine Model 30456 (1) Generator Model KBA445A
ID Number:	00260A, PU-296/G 00260B, PU-296A/G	PU-296A/G (1) Engine Model 3913 (1) Generator Model KBA445C
Function:	Power source.	(1) Trailer Model M200A1
Manufacturer:	Stewart & Stevenson Houston, Texas	
Contracts:	69934, 70985	
Approximate price:	\$7,700.00	
Recommended operational checkout interval:	<u>BI-WEEKLY</u> (under load)	

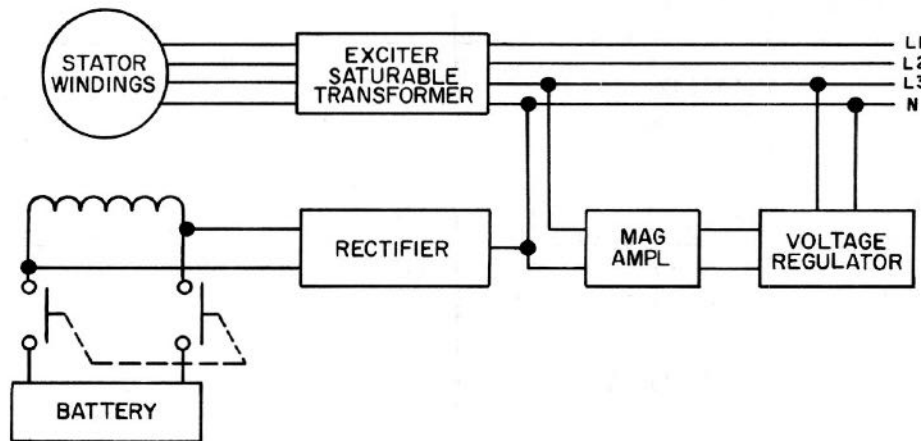


Generator Sets PU-296/G and PU-296A/G.

GENERATOR SETS PU-296/G AND PU-296A/G

Generator Sets PU-296/G and PU-296A/G

October 1961



Generator Sets PU-296/G and PU-296A/G Block Diagram.

OPERATIONAL CHARACTERISTICS			TECHNICAL CHARACTERISTICS										
<p>Use: Generator Set PU-296/G is a trailer-mounted unit, consisting of a 3-cylinder, 2-stroke-cycle diesel engine prime mover mechanically connected directly to an AC generator. The unit has a delta-wye-series-parallel change board, accessories, and other equipment necessary to make the PU-296/G generator set a self-contained unit capable of functioning under severe military conditions for long periods of time without overhaul.</p> <p>Used with: Any of various equipments requiring 400-cycle 3-phase power.</p> <p>Installation: Mobile.</p>			<p>PU-296/G Engine:</p> <p>Type: 3-cylinder, 2-cycle diesel.</p> <p>Horsepower: 67 HP at 1800 RPM.</p> <p>Cooling system: 36 quarts.</p> <p>Oil capacity: 10 quarts.</p> <p>Fuel capacity: 26-1/2 gal.</p> <p>Trailer type: 2-wheel, 1-1/2 ton.</p> <p>Generator:</p> <p>Frequency: 400 cycles.</p> <p>Phase: 3 phase.</p> <p>Power factor: 80%.</p> <p>Voltage: 120/240 or 208/416 VAC.</p> <p>Watts: 45 KW.</p>										
<p><b>SIMILAR EQUIPMENTS</b></p> <p>Generator Set PU-344/G.</p>			<p>PU-296A/G Engine:</p> <p>Type: 2-cycle diesel.</p> <p>Cylinders: 3.</p> <p>Bore: 4-1/4 inches.</p> <p>Stroke: 5 inches.</p> <p>Trailer type: 2-wheel 2-1/2 ton.</p>										
<p><b>PHYSICAL CHARACTERISTICS</b></p> <table border="1"> <thead> <tr> <th>Unit</th> <th>Overall Weight (in lbs)</th> <th>Cubic Feet</th> </tr> </thead> <tbody> <tr> <td>PU-296/G</td> <td>6000</td> <td>614.5</td> </tr> <tr> <td>PU-296A/G</td> <td>6200 (Trailer mounted)</td> <td>700</td> </tr> </tbody> </table>			Unit	Overall Weight (in lbs)	Cubic Feet	PU-296/G	6000	614.5	PU-296A/G	6200 (Trailer mounted)	700	<p>Generator</p> <p>Type: Permanent magnet rotating field.</p> <p>Rating (continuous): 45 KW, 56.25 KVA.</p> <p>Voltage: 120/208 to 220/416.</p> <p>Power factor: 0.8.</p> <p>Poles: 26.</p> <p>Amperes: 156-78.</p> <p>Frequency: 400 CPS.</p> <p>Phase: 3.</p>	
Unit	Overall Weight (in lbs)	Cubic Feet											
PU-296/G	6000	614.5											
PU-296A/G	6200 (Trailer mounted)	700											

GENERATOR SETS PU-296/G AND PU-296A/G

Revised  
January 1962

Generator Sets PU-296/G and PU-296A/G

PUBLICATIONS

NAVMC ELECT 2034, Generator Set Diesel  
PU-296/G, Apr 60.  
SL-3-00260A, Generator Set Diesel Engine  
PU-296/G, Sep 60.  
SL-4-00260A, Generator Set Diesel Engine  
PU-296/G, Jun 60 and Change 1 Nov 61.

Stewart-Stevenson, Instruction Bk Generator  
Set Diesel Engine.  
TM-00260B, Generator Set Diesel Engine  
PU-296A/G, Dec 60.  
SL-4-00260B, Generator Set Ded Trl. Mtd.  
PU-296A/G, Aug 61.

GENERATOR SETS PU-296/G AND PU-296A/G

Generator Sets PU-296/G and PU-296A/G

October 1961

MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Corrective maintenance	Multimeter: 0 to 24 VDC and 0 to 208 VAC	AN/PSM-4A	TS-352( )/U	NAVMC ELECT 2034, paragraph 7-125.

GENERATOR SETS PU-296/G and PU-296A/G

Revised  
April 1962

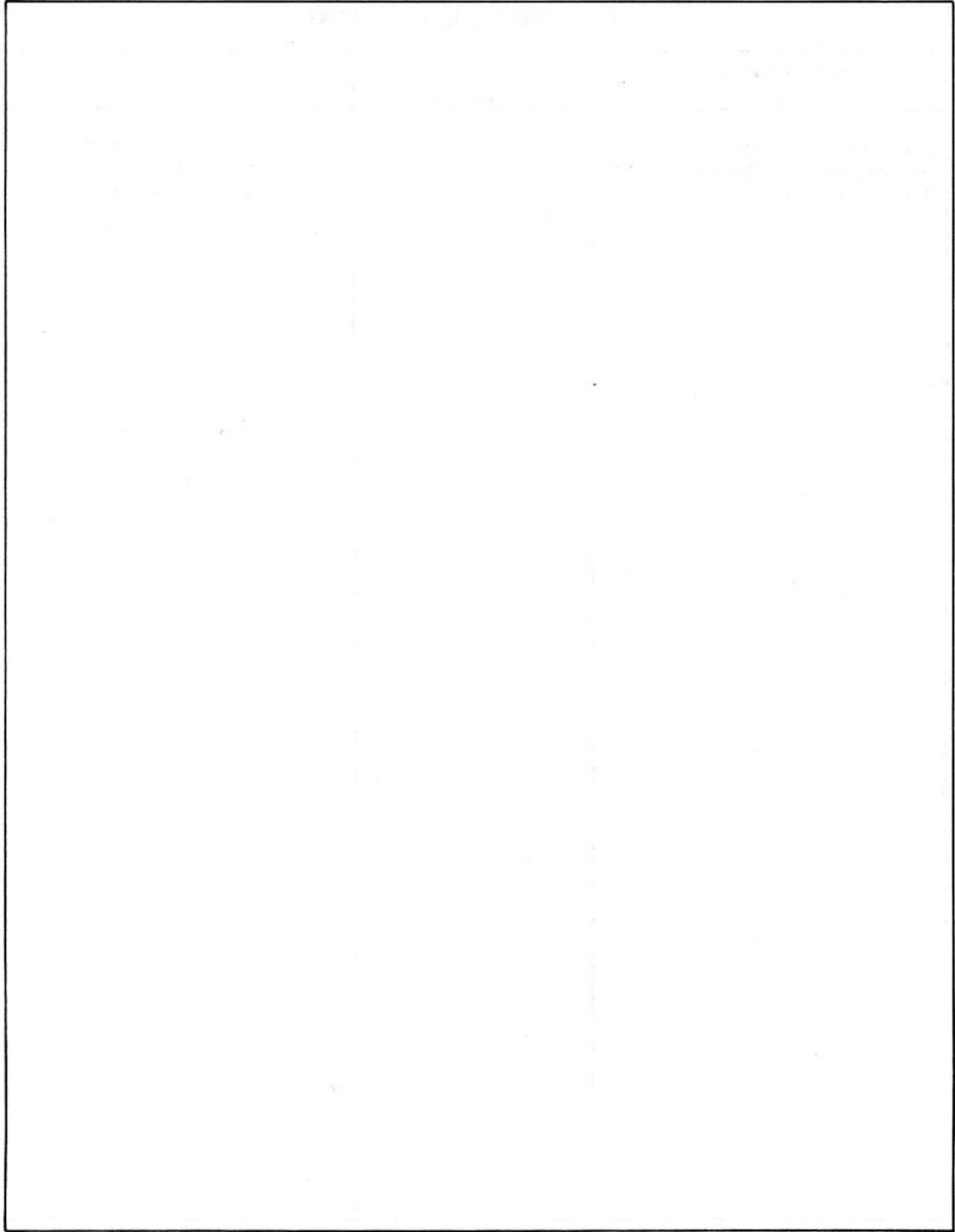
Generator Sets PU-296/G and PU-296A/G

EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
MCO 2005. 44 Sup 6: Relocation of the hand-operated fuel transfer pump.	PU-296/G	Hand-operated fuel transfer pump moved from trailer frame to generator frame.

GENERATOR SETS PU-296/G AND PU-296A/G

Generator Sets PU-296/G and PU-296A/G

October 1961

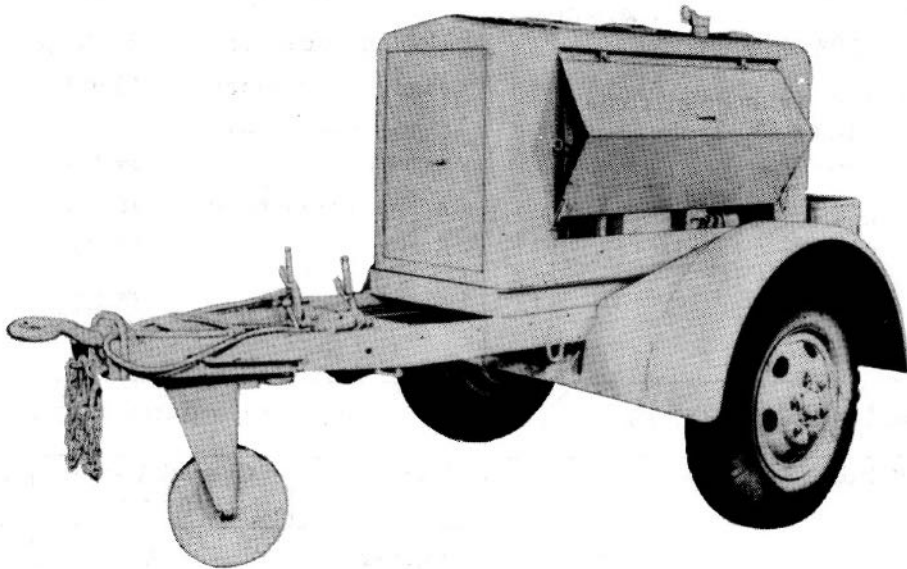


GENERATOR SET PU-344( )/G

October 1961

Generator Set PU-344( )/G

GENERAL DATA		MAJOR UNITS
F. S. N:	6115-500-4681 PU-344/G 6115-688-5057 PU-344A/G	PU-344/G (1) Engine Model 2055 (1) Generator Model M53MRX1 PU-344A/G
ID Number:	00262A, PU-344/G 00262B, PU-344A/G	(1) Engine Model 2913 (1) Generator Model KBA420
Function:	Power source.	
Manufacturer:	Stewart & Stevenson, Houston, Texas.	
Contracts:	67696, 70194	
Approximate price:	\$2, 600.00	
Recommended operational checkout interval:	<u>BI-WEEKLY</u> (under load)	



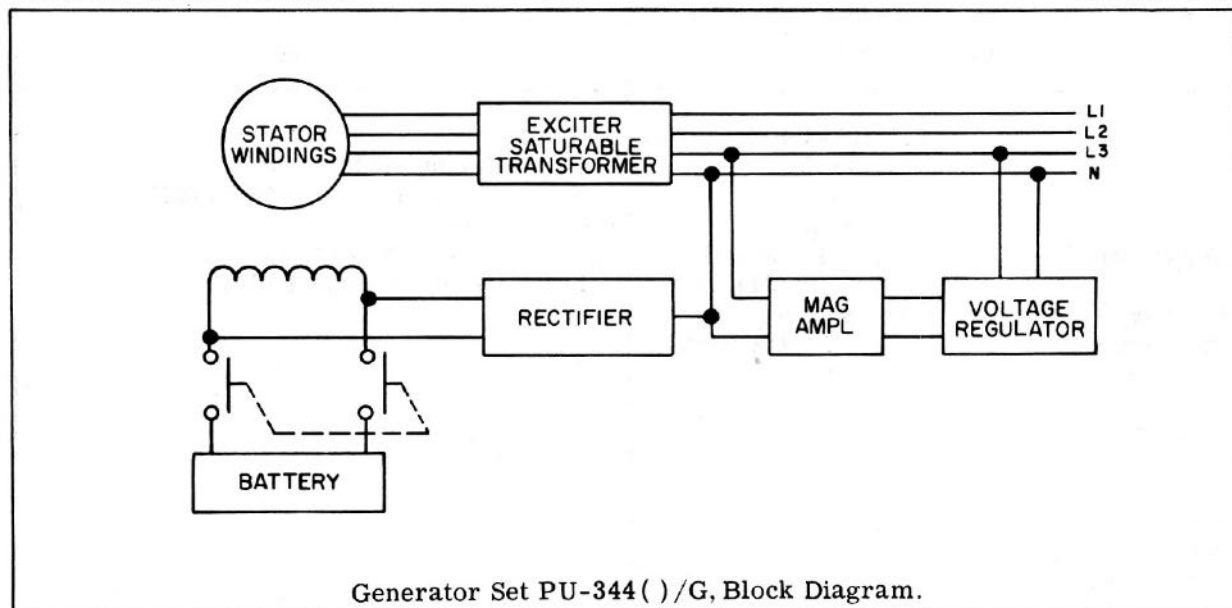
Generator Set PU-344( )/G.



# GENERATOR SET PU-344( )/G

Generator Set PU-344( )/G

October 1961



Generator Set PU-344( )/G, Block Diagram.

OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS		
<p><b>Use:</b> Generator Set PU-344( )/G is a completely self-contained mobile power source that is capable of better than one-percent voltage and frequency regulation on sudden load changes from no load to full load with stabilizing time of less than two seconds. The set generates a 400-cycle alternating current at 0.80 power factor.</p> <p><b>Used with:</b> Any of various electronic equipments requiring 400-cycle, 3-phase or single-phase power.</p> <p><b>Installation:</b> Mobile.</p>	<p><b>Cylinders:</b> 2.</p> <p><b>Speed range:</b> 350 to 2000 RPM.</p> <p><b>HP (continuous 1800 RPM):</b> 42.</p> <p><b>Compression ratio:</b> 17 to 1.</p> <p><b>Cooling capacity:</b> 4-1/2 gals.</p> <p><b>Fuel tank capacity:</b> 19 gals.</p> <p><b>Generator battery charging:</b> 24 VDC.</p> <p><b>AC generator type:</b> 20 KW, 400 CPS.</p> <p><b>Rating:</b> 20 KW, 120/240 volts, 3 phase. 15 KW, 120/240 volts, 1 phase.</p>		
SIMILAR EQUIPMENTS	PHYSICAL CHARACTERISTICS		
<p>Generator Set PU-372/G.</p>	Unit	Overall Weight (in lbs)	Cubic Feet
	PU-344/G	5650 (trailer mounted)	779
	PU-344A/G	4070 (trailer mounted)	607

Revised  
January 1962

Generator Set PU-344( )/G

## PUBLICATIONS

SIG M8, Generator Set Diesel Engine  
PU-344/G, Aug 56.  
SL-3-00262A, Generator Set Diesel Engine  
PU-344/G, Sep 60.  
NAVMC ELECT 2045, Generator Set Diesel  
Engine PU-344A/G, Oct 59.  
SL-3-02704A, Tool Kit Blower, GM-271  
Diesel Engine, Oct 61.

SL-3-00262B, Generator Set Diesel Engine  
PU-344A/G, Jun 61.  
SL-4-00262B, Generator Set D/E TRLR Mt  
PU-344A/G, Sep 60 and Ch 1 Aug 61 Ch 2  
Nov 61.

GENERATOR SET PU-344( )/G

Generator Set PU-344/G and PU-344A/G

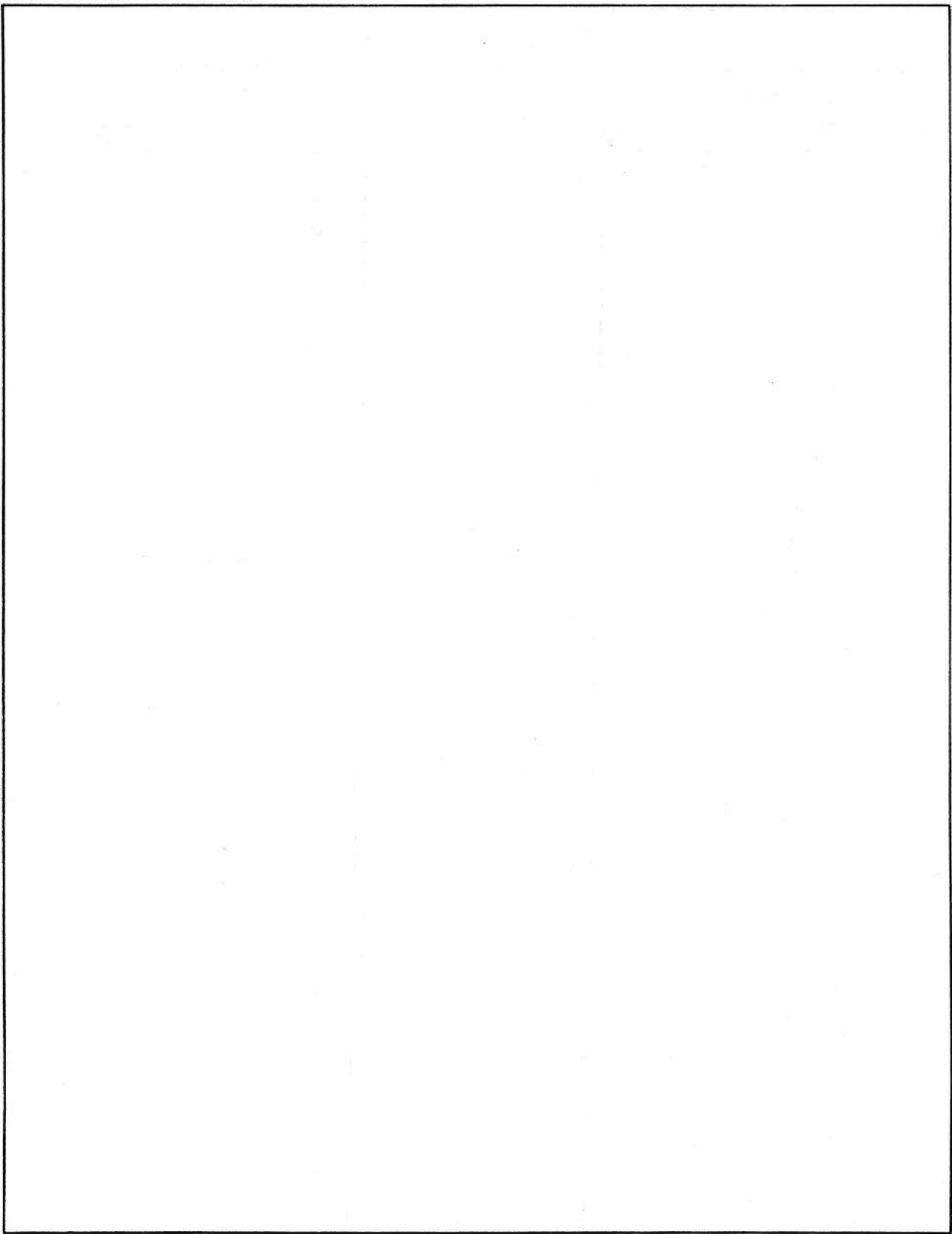
October 1961

MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Corrective maintenance	Multimeter: 24 to 27 VDC	AN/PSM-4A	TS-352( )/U	NAVMC ELECT 2010, paragraph 6.2.7.
	Ammeter: 18 to 22 amperes DC	Western Electric Model 301		
	Megger: 200 megohms	AN/PSM-1A	ZM-21A/U	NAVMC ELECT 2045, paragraph 8.31.5.

October 1961

Generator Set PU-344/G and PU-344A/G

EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
		No modifications authorized.

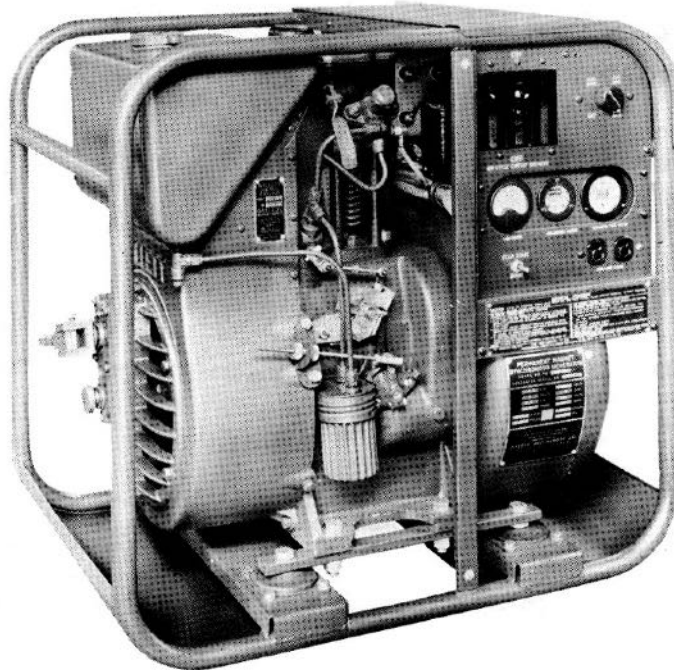


GENERATOR SET PU-345 ( )/G

October 1961

Generator Set PU-345 ( )/G

GENERAL DATA	MAJOR UNITS
<p>F. S. N: 6115-651-7522                      ID Number: 01471A                      Function: Power source</p> <p>Manufacturer: O'Keefe &amp; Merritt                      Los Angeles, Calif.</p> <p>Contracts: 70126, 71035, 75107.</p> <p>Approximate price: \$850.00                      Recommended operational checkout interval: <u>BI-WEEKLY</u>                      (under load)</p>	<p>(1) Diesel Engine Model ACIS.                      (1) 24-Pole permanent magnet generator.</p>

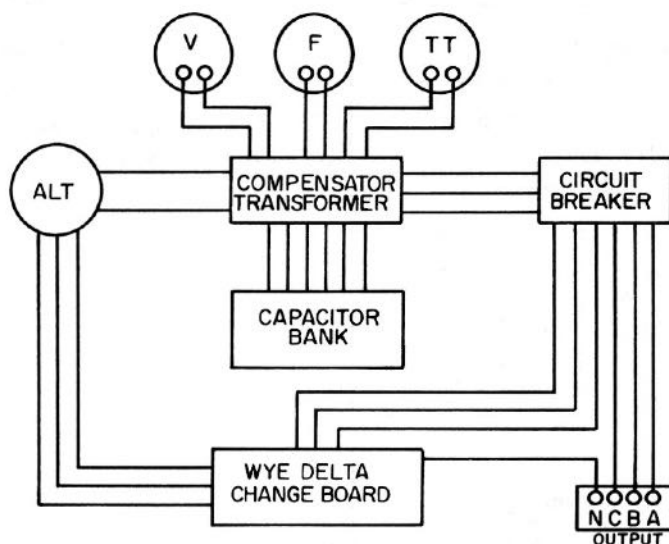


Generator Set PU-345( )/G.

GENERATOR SET PU-345 ( )/G

Generator Set PU-345 ( )/G

October 1961



Generator Set PU-345( )/G Block Diagram

OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS		
<p>Use: Generator Set PU-345 ( )/G is a portable AC power unit designed to furnish 400-cycle power for electronic lighting or heating units. It incorporates an Alnico-V permanent magnet type alternator directly driven by a governed single-cylinder, four-stroke diesel engine, shock mounted in a semi-enclosed, tubular-steel skid-type frame. It is inherently free of RF generation. Units may be paralleled for greater power output.</p> <p>Used with: Any of various types of electronic equipment requiring 400-cycle 3-phase or single-phase power.</p> <p>Installation: Transportable</p>	<p>Engine: Model: AC1S. Brake horsepower: 6.25. Type cooling: Air cooled. Speed: 2000 RPM. Generator: Phase: Single or three phase. Frequency: 400 CPS. Power factor: 0.8. Kilowatt rating: 4 KW 3 phase; 2.5 KW single phase Ampere rating: 14 amperes per leg, 3 phase.</p>		
SIMILAR EQUIPMENTS	PHYSICAL CHARACTERISTICS		
<p>Generator Sets PU-346/G and PU-454/G.</p>	<p>Unit</p> <p>PU-345/G</p>	<p>Overall Weight (in lbs)</p> <p>560</p>	<p>Cubic Feet</p> <p>17 (crated)</p>

October 1961

Generator Set PU-345 ( )/G

PUBLICATIONS

NAVMC ELECT 2015, Generator Set Diesel Engine PU-345/G.  
RPL 01471A, Generator Set Diesel Engine PU-345/G, Jun 59.

SL-3-01471A, Generator Set Diesel Engine PU-345/G, May 60.



GENERATOR SET PU-345 ( )/G

Generator Set PU-345 ( )/G

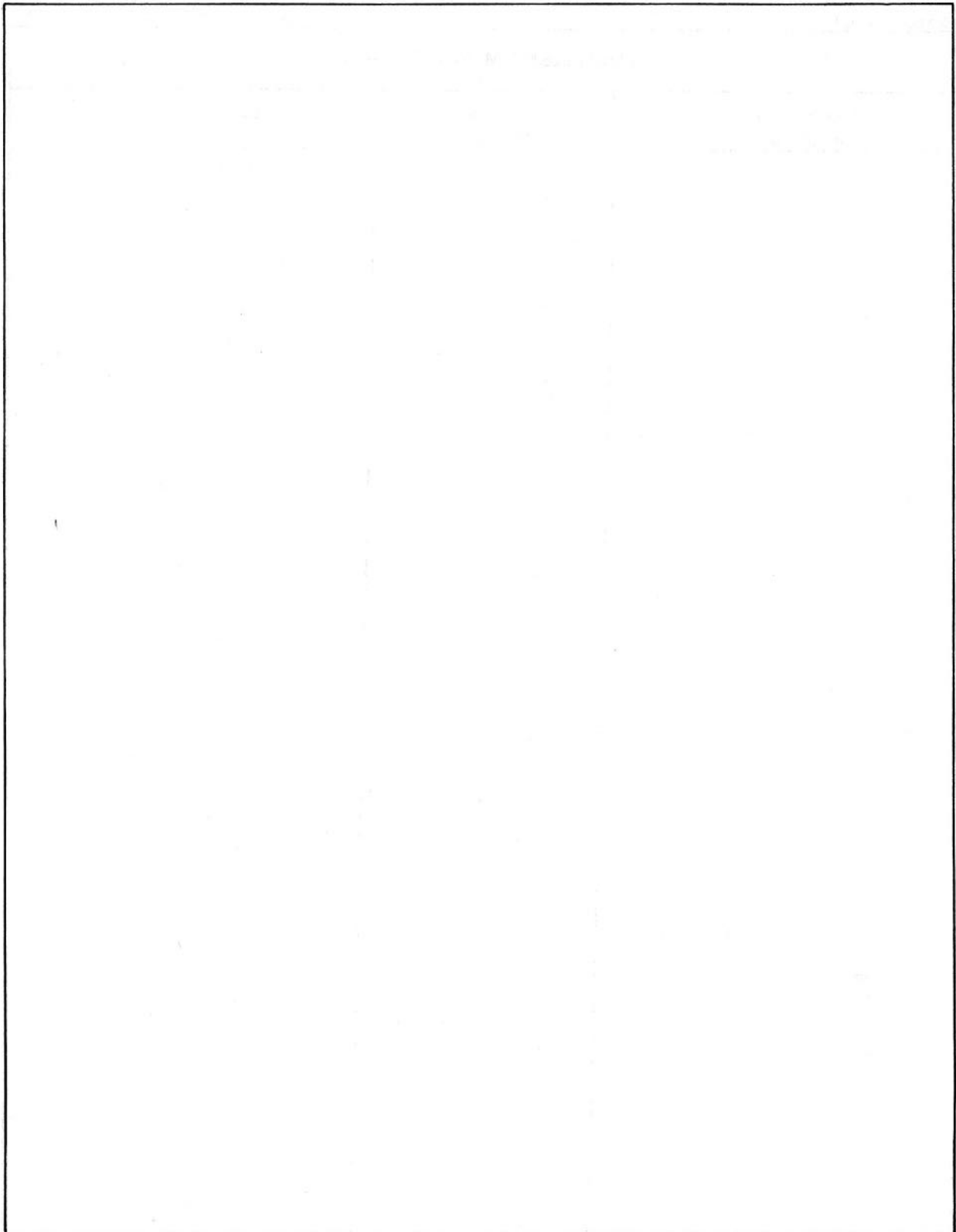
October 1961

MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Maintenance	Multimeter: 0 to 12 VDC and 0 to 208 VAC	AN/PSM-4A	TS-352 ( )/U	NAVMC ELECT 2015, paragraphs 33 through 44.

October 1961

Generator Set PU-345 ( )/G

EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
		No modifications authorized.

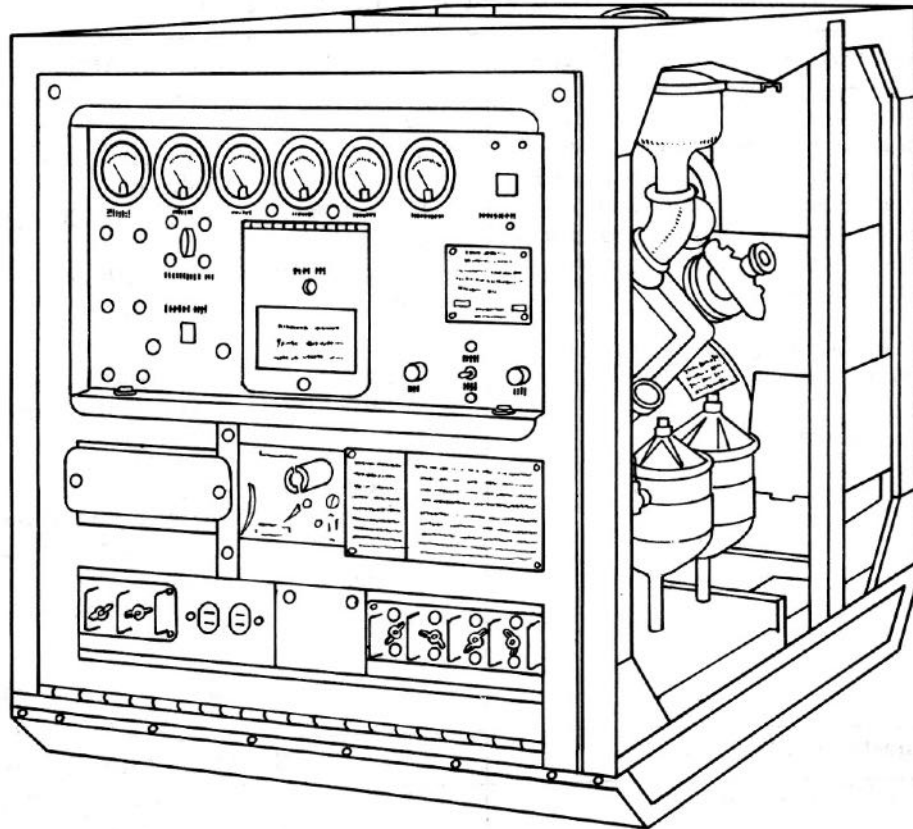


GENERATOR SET PU-346( )/G

October 1961

Generator Set PU-346( )/G

GENERAL DATA	MAJOR UNITS
<p>F. S. N: 6115-578-7880 PU-346/G 6115-688-4769 PU-346A/G</p> <p>ID Number: 00263A, PU-346/G 00263B, PU-346A/G</p> <p>Function: Power source.</p> <p>Manufacturer: O'Keefe &amp; Merritt Co. Los Angeles, Calif.</p> <p>Contracts: NOm 69768</p> <p>Approximate price: \$850. 00</p> <p>Recommended operational checkout interval: <u>BI-WEEKLY</u> (under load)</p>	<p>(1) Alternator type AC</p> <p>(1) Engine Model Number 41119</p> <p>(1) Starting Motor Model MBG-4009T-5M</p> <p>(1) Governor Model Number 252W</p>

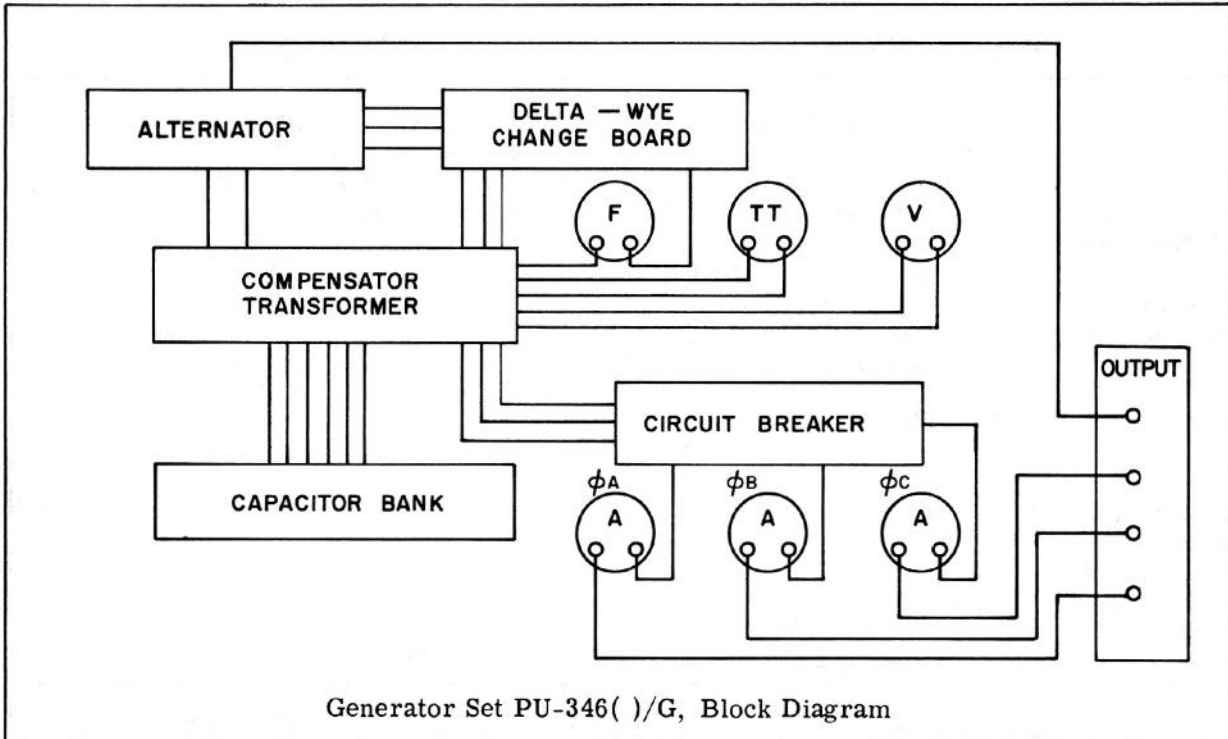


Generator Set PU-346( )/G.

# GENERATOR SET PU-346()/G

Generator Set PU-346()/G

October 1961



OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS						
<p>Use: Generator Set PU-346/G is a skid-mounted, portable source of 400-cycle alternating current. This self-contained unit, shock-mounted at the base and inherently free of radio-frequency generation, operates electronic equipment requiring precise power.</p> <p>Used with: Any of various equipments requiring 400-CPS power.</p> <p>Installation: Transportable</p>	<p>Engine:</p> <p style="margin-left: 20px;">Type: 2-cylinder, 4 stroke, Diesel, V-type.</p> <p style="margin-left: 20px;">Horsepower: 14 bhp at 2000 RPM.</p> <p style="margin-left: 20px;">Coolant: Air.</p> <p style="margin-left: 20px;">Fuel capacity: 5-1/2 gallons.</p> <p style="margin-left: 20px;">Oil capacity: 8 quarts.</p> <p>Generator:</p> <p style="margin-left: 20px;">Type: 24-pole AC.</p> <p style="margin-left: 20px;">Exciter: Permanent magnet rotating field.</p> <p style="margin-left: 20px;">Frequency: 400 CPS.</p> <p style="margin-left: 20px;">Power output: 8 KW.</p> <p style="margin-left: 20px;">Voltage: 120/208 V 400-CPS, 4-wire wye, 120 V 400-CPS, 2-wire, delta.</p> <p style="margin-left: 20px;">Phase: 3-phase wye, single phase delta.</p> <p style="margin-left: 20px;">Power factor: 0.8.</p> <p style="margin-left: 20px;">Ampere rating: 28-amp (per leg) 3-phase 52-amp single phase.</p>						
SIMILAR EQUIPMENTS	PHYSICAL CHARACTERISTICS						
<p>Generator Set PU-454()/G</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 25%;">Unit</th> <th style="width: 25%;">Overall Weight (in lbs)</th> <th style="width: 50%;">Cubic Feet</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">PU-346/G</td> <td style="text-align: center;">687</td> <td style="text-align: center;">18.93 (not crated)</td> </tr> </tbody> </table>	Unit	Overall Weight (in lbs)	Cubic Feet	PU-346/G	687	18.93 (not crated)
Unit	Overall Weight (in lbs)	Cubic Feet					
PU-346/G	687	18.93 (not crated)					

Revised  
Jan 1962

Generator Set PU-346( )/G

## PUBLICATIONS

NAVMC ELECT 2016, Generator Set Diesel Engine PU-346/G.

RPL 00263A, Generator Set Diesel Engine PU-346/G, Jan 59.

RPL 00263A, Generator Set, Diesel Eng PU-346/G Nov. 61, Ch 1.

SL-3-00263A, Generator Set Diesel Engine PU-346/G, Nov 60.

SL-4-00263B, Generator Set Diesel Engine PU-346A/G, Sep 60.

SL-4-00263B, Generator Set Diesel Eng PU-346A/G Nov 61 Ch 1.

GENERATOR SET PU-346( )/G

Generator Set PU-346( )/G

October 1961

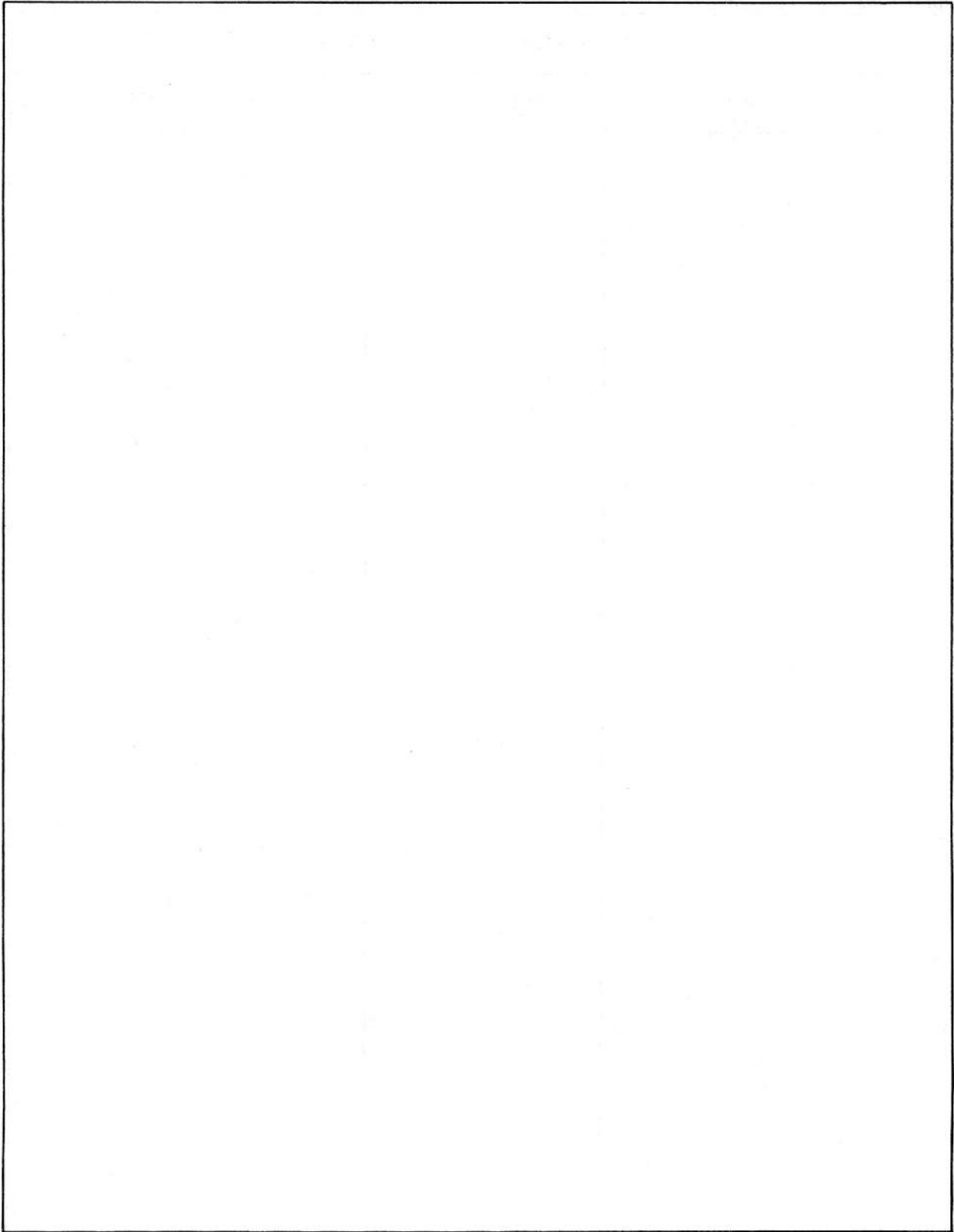
MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Maintenance	Capacitance bridge: 0.3 to 3.25 microfarads	ZM-11/U	60007	NAVMC ELECT 2016, Section VI.
	Multimeter	AN/PSM-4A	TS-352/U	

Revised  
April 1962

Generator Set PU-346( )/G

EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification



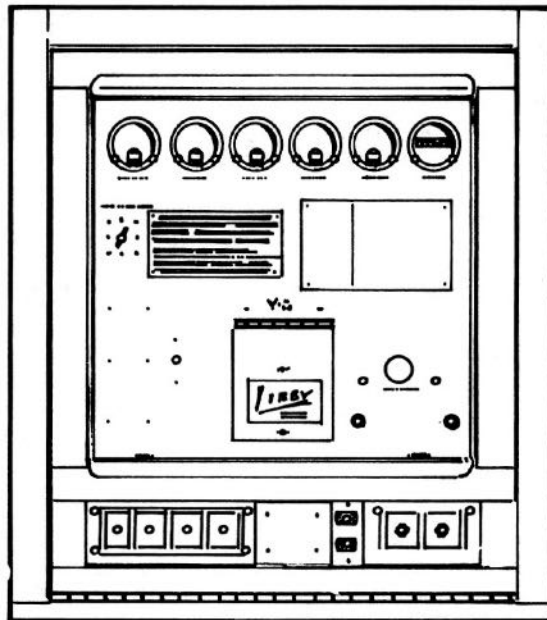


GENERATOR SET PU-347( )/G

October 1961

Generator Set PU-347( )/G

GENERAL DATA	MAJOR UNITS
<p>F. S. N: 6115-508-1550                      ID Number: 01472A                      Function: Power source.                      Manufacturer: Libby Welding Co., Inc.                      Kansas City,                      Missouri</p> <p>Contracts: NOm 70655</p> <p>Approximate price: \$680.00                      Recommended                      operational                      checkout                      interval: <u>BI-WEEKLY</u>                      (under load)</p>	<p>(1) Generator Set PU-347/G                      (1) Diesel Engine Model AC-15B</p>

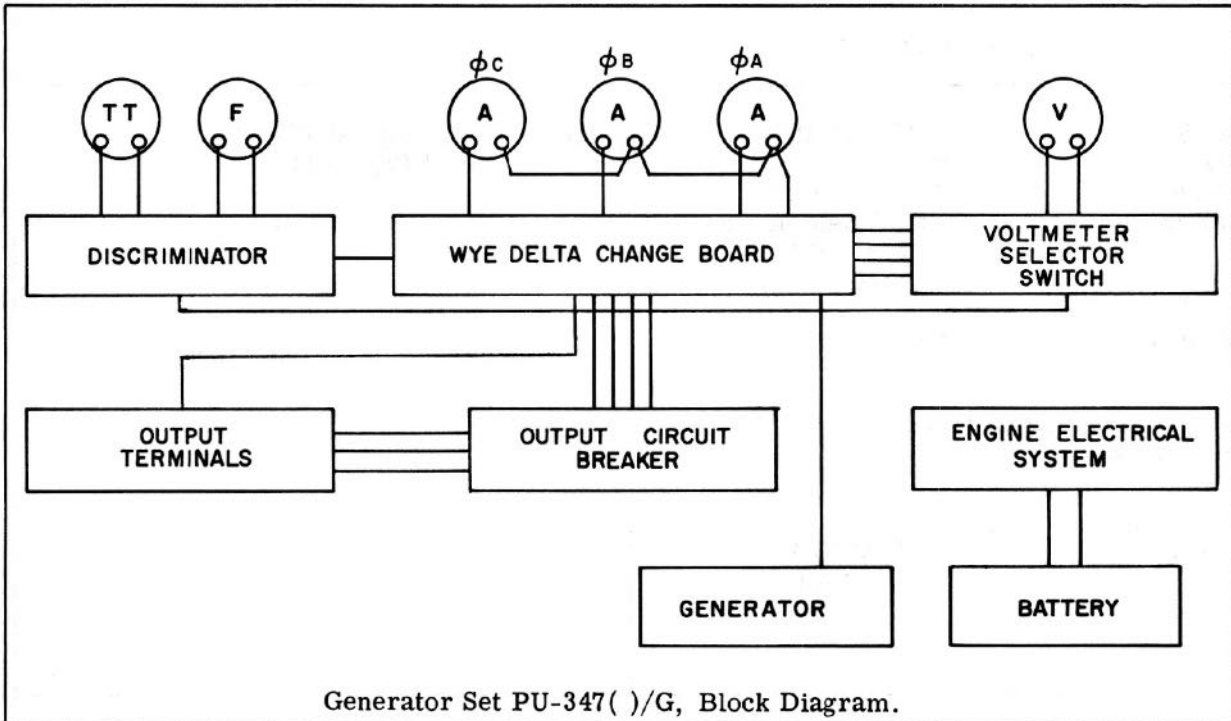


Generator Set PU-347( )/G (Front Panel).

# GENERATOR SET PU-347( )/G

Generator Set PU-347( )/G

October 1961



Generator Set PU-347( )/G, Block Diagram.

OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS							
<p><b>Use:</b> Generator Set PU-347/G is a skid-mounted, portable power source. The generator is directly connected to and driven by an air-cooled diesel engine. The entire unit is shock-mounted at the base, winterized, and inherently free of radio-frequency generation. Since this general purpose unit is primarily designed as a source of power for electronic equipment, it may be used to provide power for lights, motors, and other units in localities where commercial power is not available.</p> <p><b>Used with:</b> Radio Set AN/MRC-40 or any of various equipments requiring 120/208 V at 60 CPS, within the generators power limitations.</p> <p><b>Installation:</b> Transportable.</p>	<p><b>Engine:</b>                      Model: AC1-SB.                      Type: 1-cylinder, 4-stroke, Diesel.                      Brake horse-power: 7 bhp at 1800 RPM.                      Starter: 24 volts.                      Coolant: Air.</p> <p><b>Generator:</b>                      Model: KBA-604.                      Frequency: 60 cycles.                      Watts: 4 KW.                      Exciter power: 0.8.                      Output data: 120/208 V, 3-phase, 4-wire, wye, 60 CPS, 4 KW.                      120 V, 3-phase, 3-wire, delta, 60 CPS, 4 KW.                      120 V, single-phase, 2-wire, 60 CPS, 3 KW.</p>							
SIMILAR EQUIPMENTS	PHYSICAL CHARACTERISTICS							
<p>Engine Generator Sets PU-239( )/G and PU-482( )/G.</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 25%;">Unit</th> <th style="width: 50%;">Overall Weight (in lbs)</th> <th style="width: 25%;">Cubic Feet</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">PU-347/G</td> <td style="text-align: center;">640</td> <td style="text-align: center;">20 (crated)</td> </tr> </tbody> </table>	Unit	Overall Weight (in lbs)	Cubic Feet	PU-347/G	640	20 (crated)	
Unit	Overall Weight (in lbs)	Cubic Feet						
PU-347/G	640	20 (crated)						

GENERATOR SET PU-347 ( )/G

October 1961

Generator Set PU-347 ( )/G

PUBLICATIONS

NAVMC ELECT 2017, Generator Set Diesel Engine Driven PU-347/G, Jul 60.  
SL-3-01472A, Generator Set Diesel Engine PU-347/G, Sep 60.

SL-4-01472A, Generator Set Diesel Engine PU-347/G, May 60.

GENERATOR SET PU-347( )/G

Generator Set PU-347( )/G

October 1961

MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Inspection of instrument panel	Ohmmeter: Continuity checks	AN/PSM-4A	TS-352/U	NAVMC ELECT 2017, paragraph 5-4-5.
	Megger: 1 megohm	60089	ZM-21A/U	
Inspection of starter	Growler			NAVMC ELECT 2017, paragraph 5-8-3.
Bench testing**	24-volt DC source: Variable; low resistance, high wattage	Storage battery		NAVMC ELECT 2017, paragraph 5-8-6.
	Stroboscope	TS-805/U		
	Ammeter: 0-100 amps DC	ME-65	Westinghouse PY-5*	
	Ohmmeter: Continuity checks	AN/PSM-4A	TS-352/U	
	* Non T/A item			
	** Normally considered fifth echelon			

October 1961

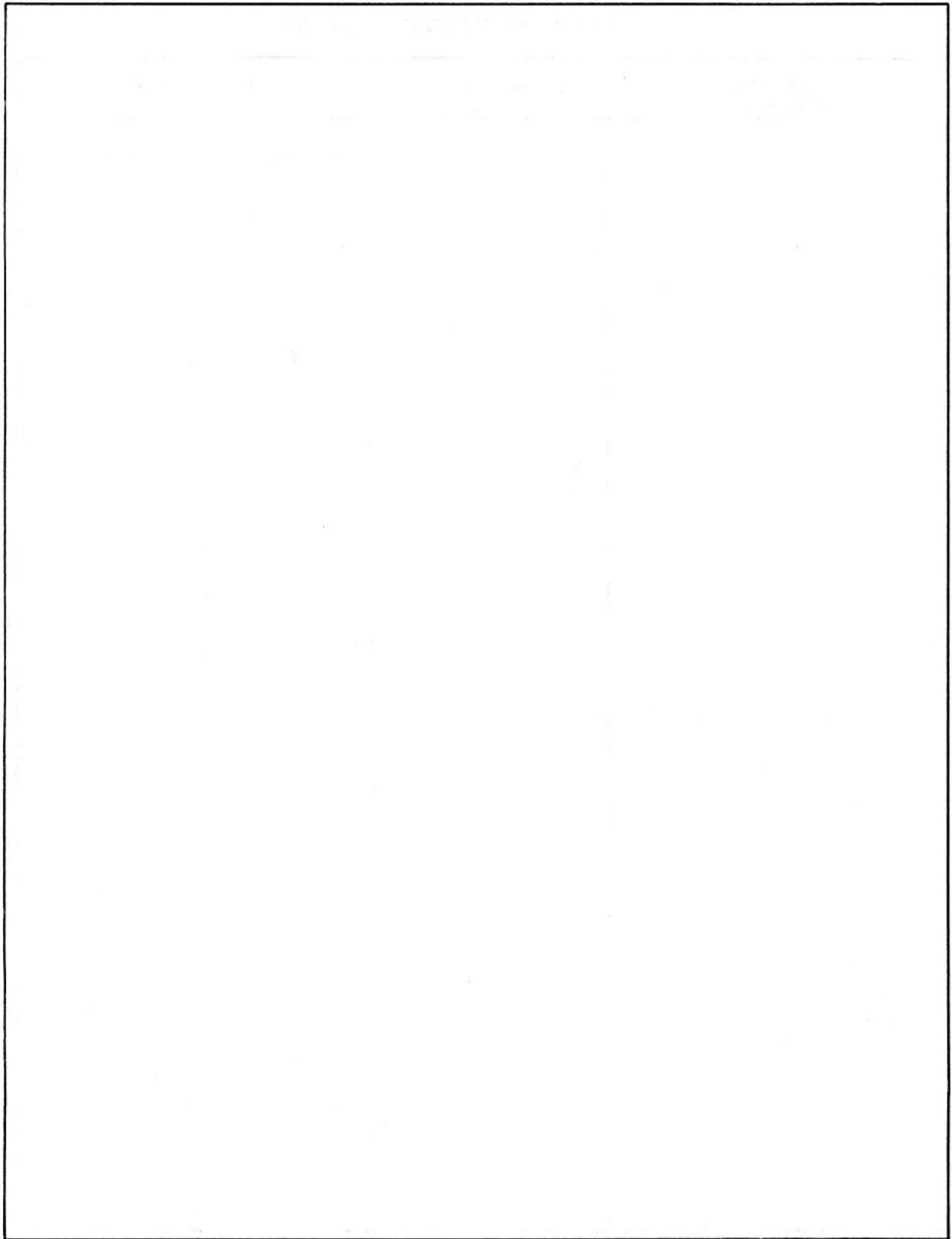
Generator Set PU-347( )/G

EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
		No modifications authorized.

GENERATOR SET PU-347( )/G

Generator Set PU-347( )/G

October 1961

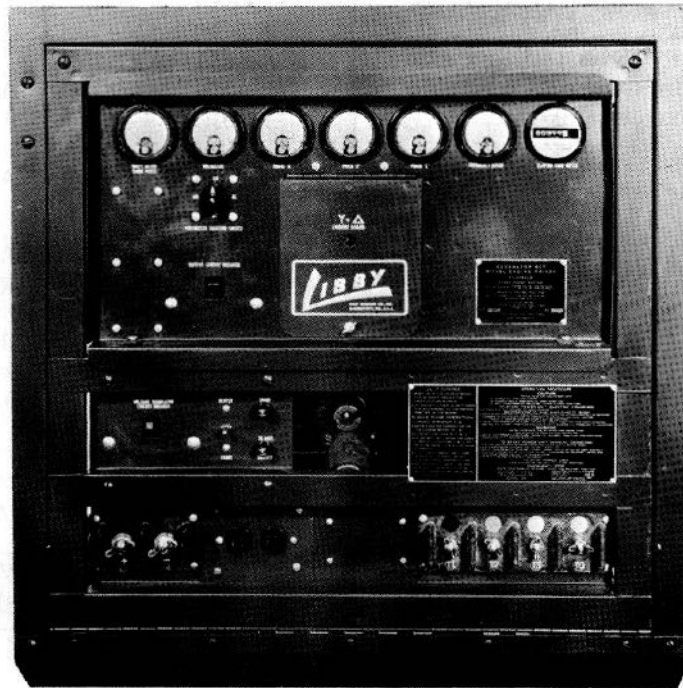


GENERATOR SET PU-348( )/G

October 1961

Generator Set PU-348( )/G

GENERAL DATA		MAJOR UNITS
F. S. N:	6115-508-1549, PU-348/G 6115-682-3414, PU-348A/G	(1) PU-348A/G Engine, American Marc, Model AC-2-SB (1) Generator, American Marc, Model KAB 608
ID Number:	01473A, PU-348/G 01473B, PU-348A/G	
Function:	Portable source of AC power.	
Manufacturer:	Libby Welding Co., Kansas City, Mo.	
Contracts:	70935, 71225	
Approximate price:	\$850.00	
Recommended operational checkout interval:	<u>BI-WEEKLY</u> (under load)	



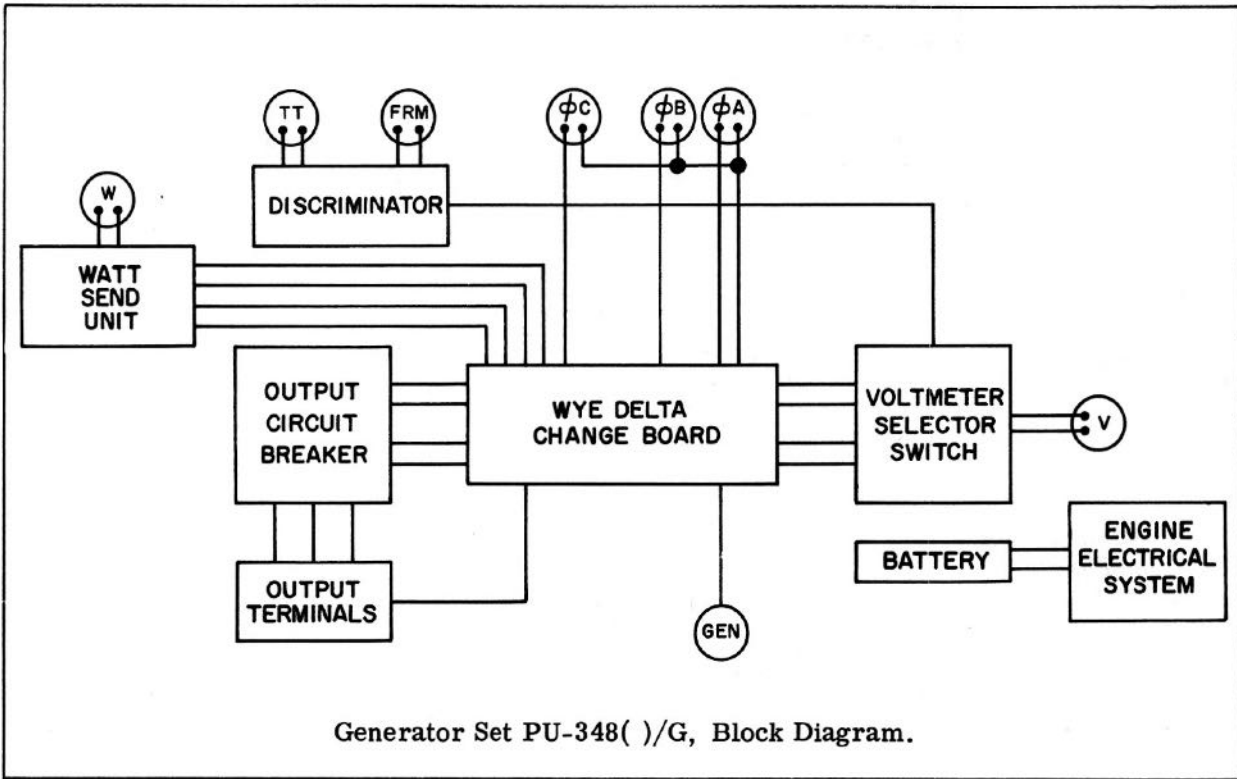
Generator Set PU-348( )/G.



GENERATOR SET PU-348( )/G

Generator Set PU-348( )/G

October 1961



Generator Set PU-348( )/G, Block Diagram.

OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS											
<p>Use: Generator Set PU-348( )/G is a skid-mounted transportable source of 60-cycle current for general purpose use.</p> <p>Used with: Various equipments requiring 60-cycle power or for temporary lighting systems.</p> <p>Installation: Transportable.</p>	<p>Engine:</p> <p>Manufacturer: American Marc Inc.</p> <p>Model: AC-2-SB.</p> <p>Starting: 24V.</p> <p>Coolant: Air.</p> <p>Generator:</p> <p>Manufacturer: American Marc Inc.</p> <p>Model: KAB 608.</p> <p>Frequency: 60 CPS.</p> <p>Phase: Single or three.</p> <p>Watts: 7 KW; 8 KW.</p> <p>Voltage: 120/208 VAC.</p>											
SIMILAR EQUIPMENTS	PHYSICAL CHARACTERISTICS											
<p>Generator Set PU-347( )/G except it provides only 4 KW.</p>	<table border="1"> <thead> <tr> <th>Unit</th> <th>Overall Weight (in lbs)</th> <th>Cubic Feet</th> </tr> </thead> <tbody> <tr> <td>PU-348/G</td> <td>650</td> <td>17</td> </tr> <tr> <td>PU-348A/G</td> <td>935</td> <td>15 (crated)</td> </tr> </tbody> </table>	Unit	Overall Weight (in lbs)	Cubic Feet	PU-348/G	650	17	PU-348A/G	935	15 (crated)		
Unit	Overall Weight (in lbs)	Cubic Feet										
PU-348/G	650	17										
PU-348A/G	935	15 (crated)										

October 1961

Generator Set PU-348( )/G

## PUBLICATIONS

SL-3-01473A, Generator Set Diesel Engine  
PU-348/G, Oct 60 and Ch 1 Jul 61.  
SL-3-01473B, Generator Set Diesel Engine  
PU-348A/G, May 61.

SL-4-01473B, Generator Set Diesel Engine  
PU-348A/G, Nov 60.  
TM-01473B-15, Generator Set Diesel Engine  
PU-348A/G, Dec 60.

GENERATOR SET PU-348( )/G

Generator Set PU-348( )/G

October 1961

MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Maintenance	Multimeter: 3 to 4.2 VDC 0 to 208 VAC 25 to 150 ohms	TS-352( )/U	AN/PSM-4A	TM 01473B-15, paragraphs 5-4-10 through table.
	DC ammeter: 0 to 140 ma DC	TS-352( )/U	AN/PSM-4A	
	AC ammeter (clamp-on type): 0 to 15 amp	ME-1/U	ME-67/U* ME-65/U	
	* Non T/A item			

October 1961

Generator Set PU-348( )/G

<b>EQUIPMENT MODIFICATIONS</b>		
<b>Authorization and Purpose</b>	<b>Equipments Affected</b>	<b>Identification</b>
		No modifications authorized.

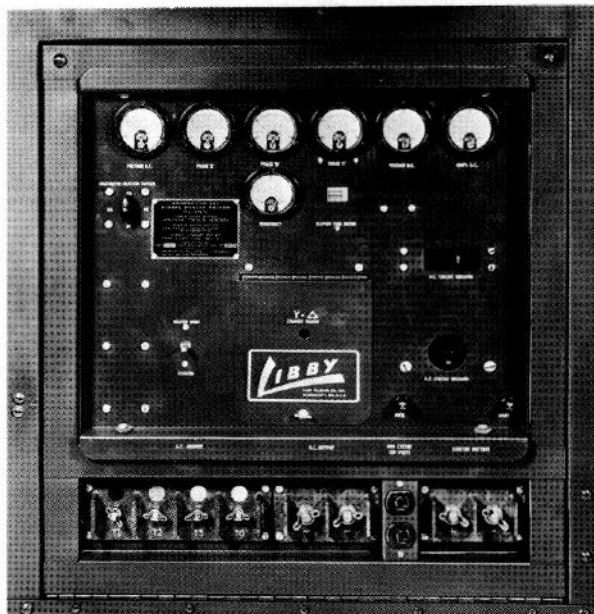


GENERATOR SET PU-454( )/G

October 1961

Generator Set PU-454( )/G

GENERAL DATA	MAJOR UNITS
<p>F. S. N: 6115-644-1071 PU-454/G 6115-668-5704 PU-454A/G</p> <p>ID Number: 02365A, PU-454/G 02365B, PU-454A/G</p> <p>Function: Power source.</p> <p>Manufacturer: Libby Welding Co, Inc. Kansas City, Mo. PU-454/G Stewart &amp; Stevenson Services Inc. Houston, Texas PU-454A/G</p> <p>Contracts: NOm 70655 and 70905 for PU-454/G NOm 71224 for PU-454A/G</p> <p>Approximate price: \$1,900.00</p> <p>Recommended operational checkout interval: <u>BI-WEEKLY</u> (under load)</p>	<p>(1) Engine Model AC-1SB (1) Generator Model KBA-404S D. C.</p>

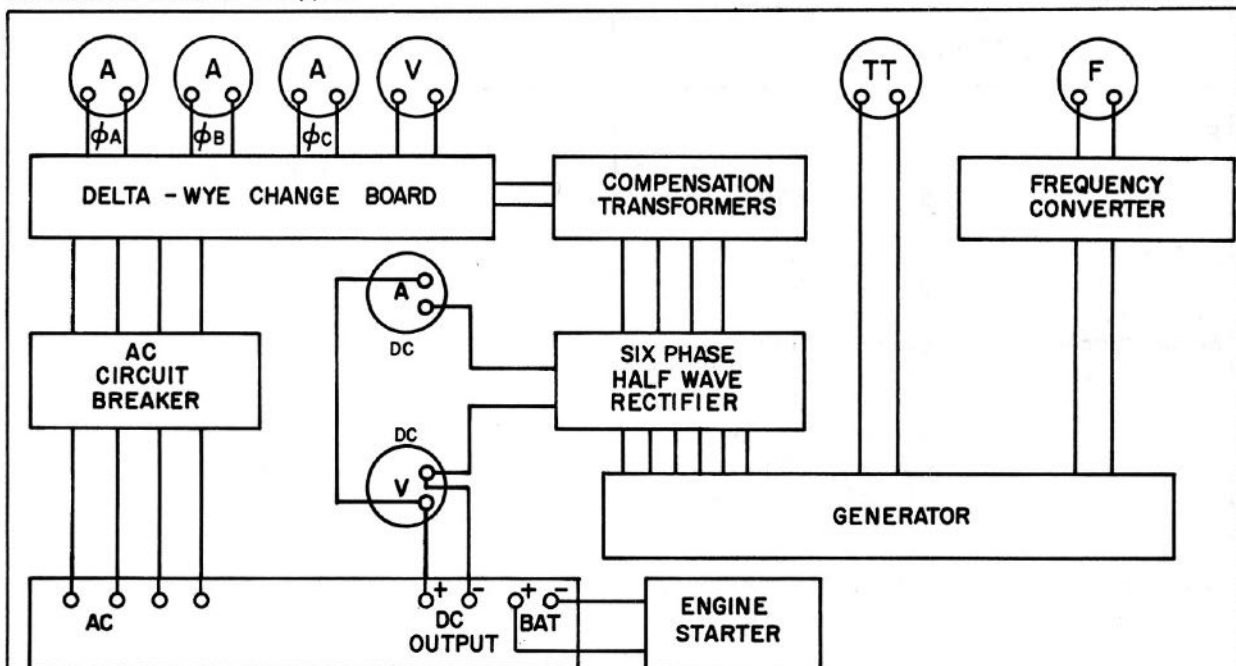


Generator Set PU-454( )/G.

# GENERATOR SET PU-454( )/G

Generator Set PU-454( )/G

October 1961



Generator Set PU-454( )/G, Block Diagram.

OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS	
<p><b>Use:</b> Generator Set PU-454( )/G is a self-contained unit intended for operation as an independent power source for electronic equipment.</p> <p><b>Used with:</b> Any of various electronic equipments requiring the type of power produced by this generator.</p> <p><b>Installation:</b> Transportable.</p>	<p><b>Engine:</b>                      Model: AC1-SB.                      Horsepower: 6 bhp at 1800 RPM.                      Cylinders: 1.                      Lube oil capacity: 4 quarts.                      Fuel capacity: 3.5 gallons.</p> <p><b>Generator:</b>                      Model: KBA-404S D. C.                      Type: Permanent magnet rotating field.</p> <p><b>Output data:</b>                      208-V, 3-phase, 4-wire wye, 400 CPS, 4 KW.                      120-V, single-phase, 2-wire, 400 CPS, 3 KW.                      120-V, 3-phase, 3-wire delta, 400 CPS, 4 KW.                      28 VDC, 4 KW.</p> <p><b>Power factor:</b> .08.  <b>RPM:</b> 2000.</p>	
<b>SIMILAR EQUIPMENTS</b>		
<p>Generator Set PU-346( )/G provides 120/208 V, 400 CPS at 8 KW.</p>		
<b>PHYSICAL CHARACTERISTICS</b>		
Unit	Overall Weight (in lbs)	Cubic Feet
PU-454/G	550 (not crated)	11.46

October 1961

Generator Set PU-454( )/G

## PUBLICATIONS

NAVMC ELECT 2044, Generator Set Diesel Engine PU-454/G, Ch 1 May 60.  
NAVMC ELECT 2047, Generator Set Diesel Engine PU-454A/G, Oct 60.  
RPL 02365A, Generator Set Diesel Engine PU-454/G, Nov 59 and Ch 1 Sep 61.

SL-3-02365A, Generator Set Diesel Engine PU-454/G, Aug 60.  
SL-4-02365B, Generator Set Diesel Engine Mod PU-454A/G, Aug 61.



GENERATOR SET PU-454( )/G

Generator Set PU-454( )/G

October 1961

MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Maintenance	Megger: 1 megohm	60089	ZM-21A/U	NAVMC ELECT 2044, paragraphs 5-4-5 through 5-8-5, and NAVMC ELECT 2047, paragraphs 5-4-5 through 5-8-4.
	Capacitor analyzer	ZM-11/U	60007	
	Multimeter	AN/PSM-4A	TS-352/U	
	Fluxmeter	TS-15A/AP	TS-15/AP*	
	* Non T/A item			

GENERATOR SET PU-454( )/G

October 1961

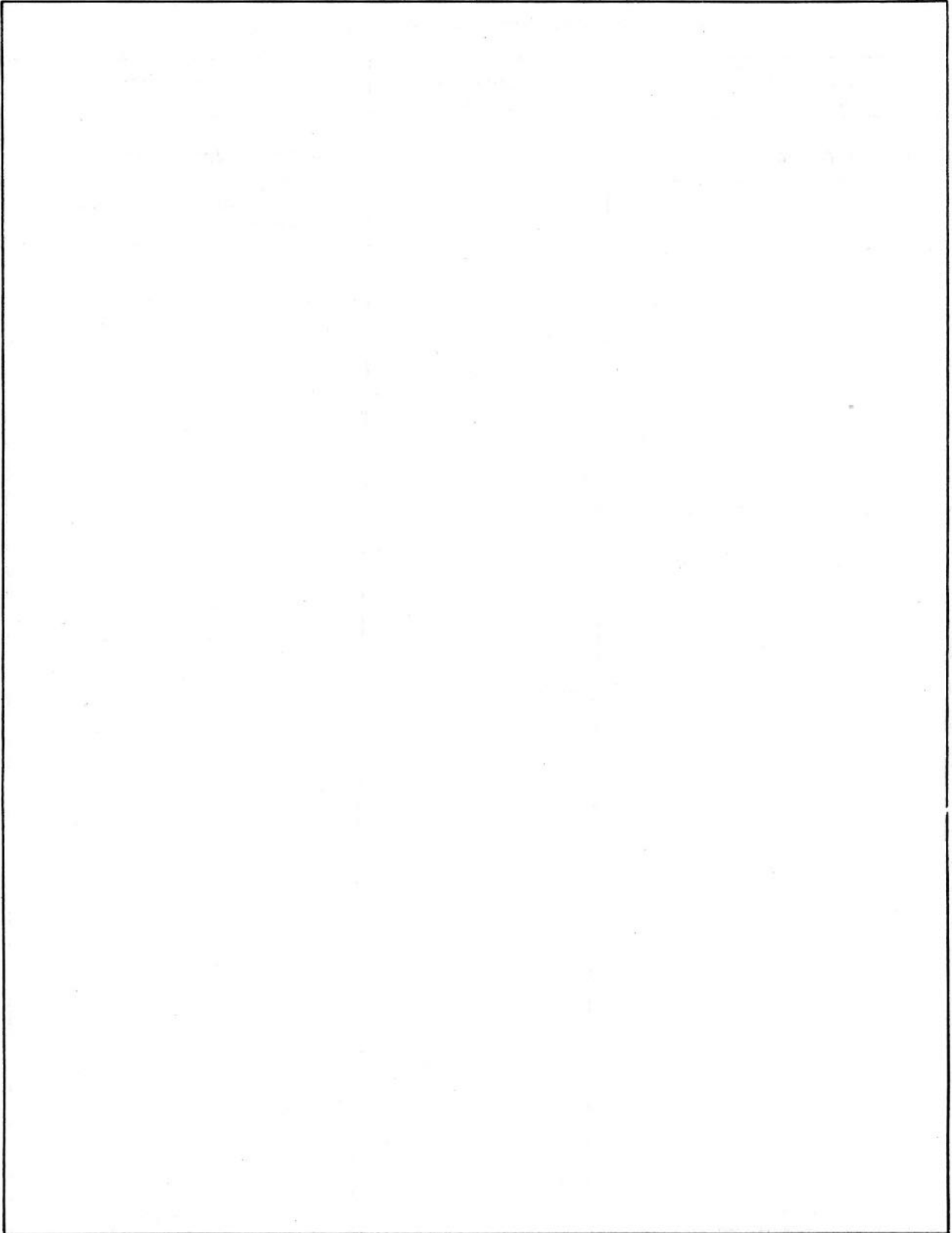
Generator Set PU-454( )/G

EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
MCO 2005. 73 Sup 2: To eliminate output oscillations.	PU-454( )/G	5000-ohm resistor installed across each capacitor of the capacitor assembly located in the generator.

GENERATOR SET PU-454( )/G

Generator Set PU-454( )/G

October 1961

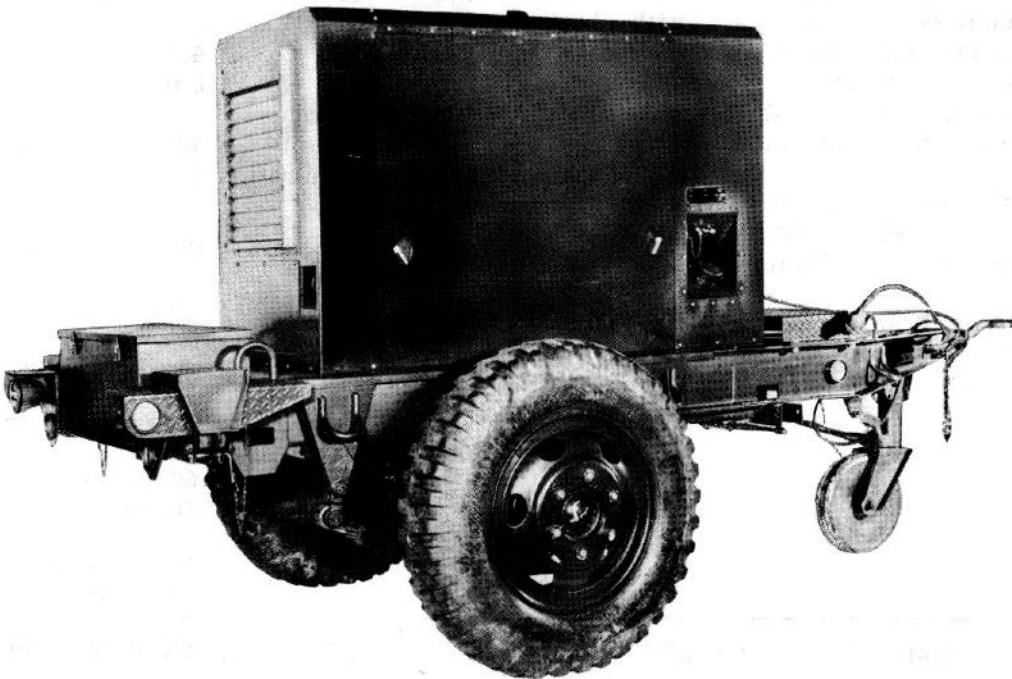


GENERATOR SET PU-482/M

October 1961

Generator Set PU-482/M

GENERAL DATA	MAJOR UNITS
<p>F. S. N: 6115-721-4525                      ID Number: 00920G                      Function: Power source.                      Manufacturer: Hol-Gar Manufacturing Corp., Clifton Heights, Penn.</p> <p>Contracts: NOm 70981                      NOm 71885</p> <p>Approximate price: \$6,000.00                      Recommended operational checkout interval: <u>BI-WEEKLY</u></p>	<p>(1) Generator Model KBA-630A                      (1) Diesel Engine Model 2913 Series 2-71                      (1) 2-1/2-ton 2-wheel Trailer M200A1</p>

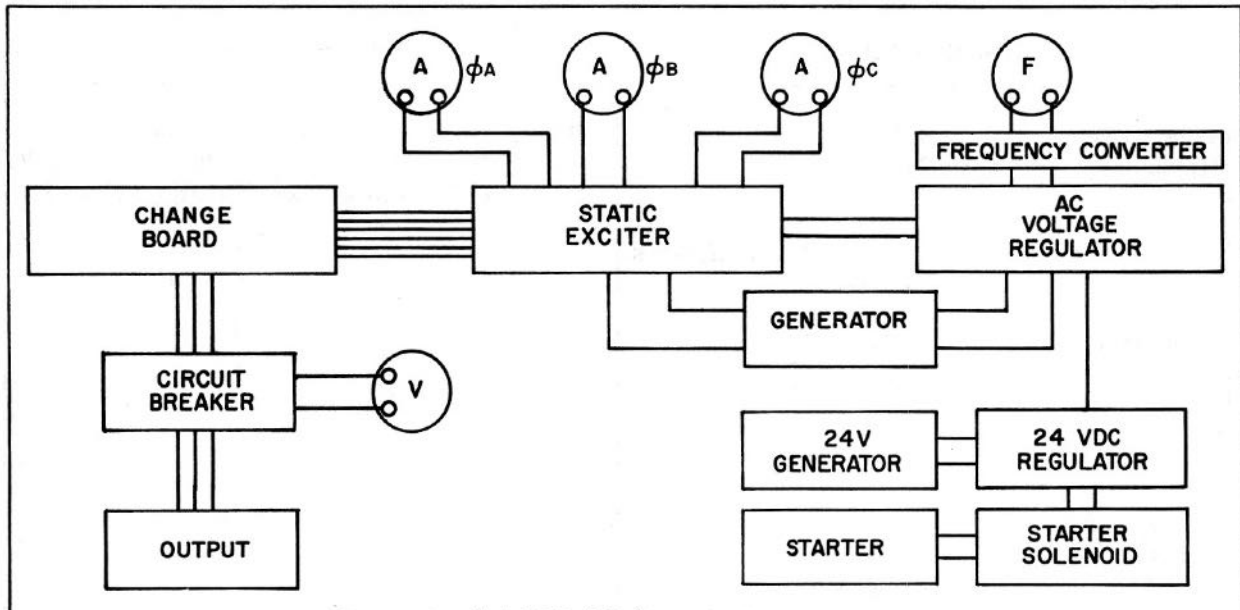


Generator Set PU-482/M.

# GENERATOR SET PU-482/M

Generator Set PU-482/M

October 1961



Generator Set PU-482/M, Block Diagram.

OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS		
<p><b>Use:</b> The generator set is a completely self-contained, mobile, AC generating unit. The unit consists of an AC generator with a built-in DC exciter; a 2-cylinder, liquid-cooled, diesel engine with direct coupled drive; and a control panel on which all the necessary meters and controls are mounted.</p> <p><b>Used with:</b> Any of various equipments requiring 120/240 V at 60 CPS within the generators power limitations.</p> <p><b>Installation:</b> Transportable.</p>	<p><b>Engine:</b></p> <p>Lube oil capacity: 11 quarts.            Cylinders: 2.            Bore: 4.250 in.            Stroke: 5 in.            Piston displacement: 141.9 cubic in.            Compression ratio: 17 to 1.</p> <p><b>Generator:</b></p> <p>Type: Self-excited (static type)            Power output: 30 KW, 3-phase,                              20 KW, 1-phase.            Power factor: 0.8.            Phase: Single or 3 phase.            Volts: 120/240 line-to-line,                  weye connected: 208/416 line-to-neutral.                  delta connected: 120 or 240.            Frequency: 60 cycles.            Speed: 1800 RPM.            Temperature rise (°C): 38°C for continuous operation.</p>		
SIMILAR EQUIPMENTS	PHYSICAL CHARACTERISTICS		
<p>Engine Generator Set PU-239/M.</p>	Unit	Overall Weight (in lbs)	Cubic Feet
	PU-482/M	4925 (mounted in trailer)	595

Revised  
April 1962

Generator Set PU-482/M

PUBLICATIONS

SL-4-00920G, Generator Set Diesel Engine  
PU-482/M, Jun 61.  
SL-3-00920/G, Generator Set Die Eng  
PU-482/M, Feb 62.

TM 00920G-15, Generator Set Diesel Engine  
PU-482/M, Mar 61.

GENERATOR SET PU-482/M

Generator Set PU-482/M

October 1961

MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Maintenance	Multimeter: 0 to 5.5 amps, 0 to 24 VDC, 0 to 250 VAC  Megger: 1 megohm	TS-352( )/U  AN/PSM-2A	AN/PSM-4A  I-48B 2M-21A/U	TM 00920G-15, Sections 5-1 through 5-67.

GENERATOR SET PU-482/M

October 1961

Generator Set PU-482/M

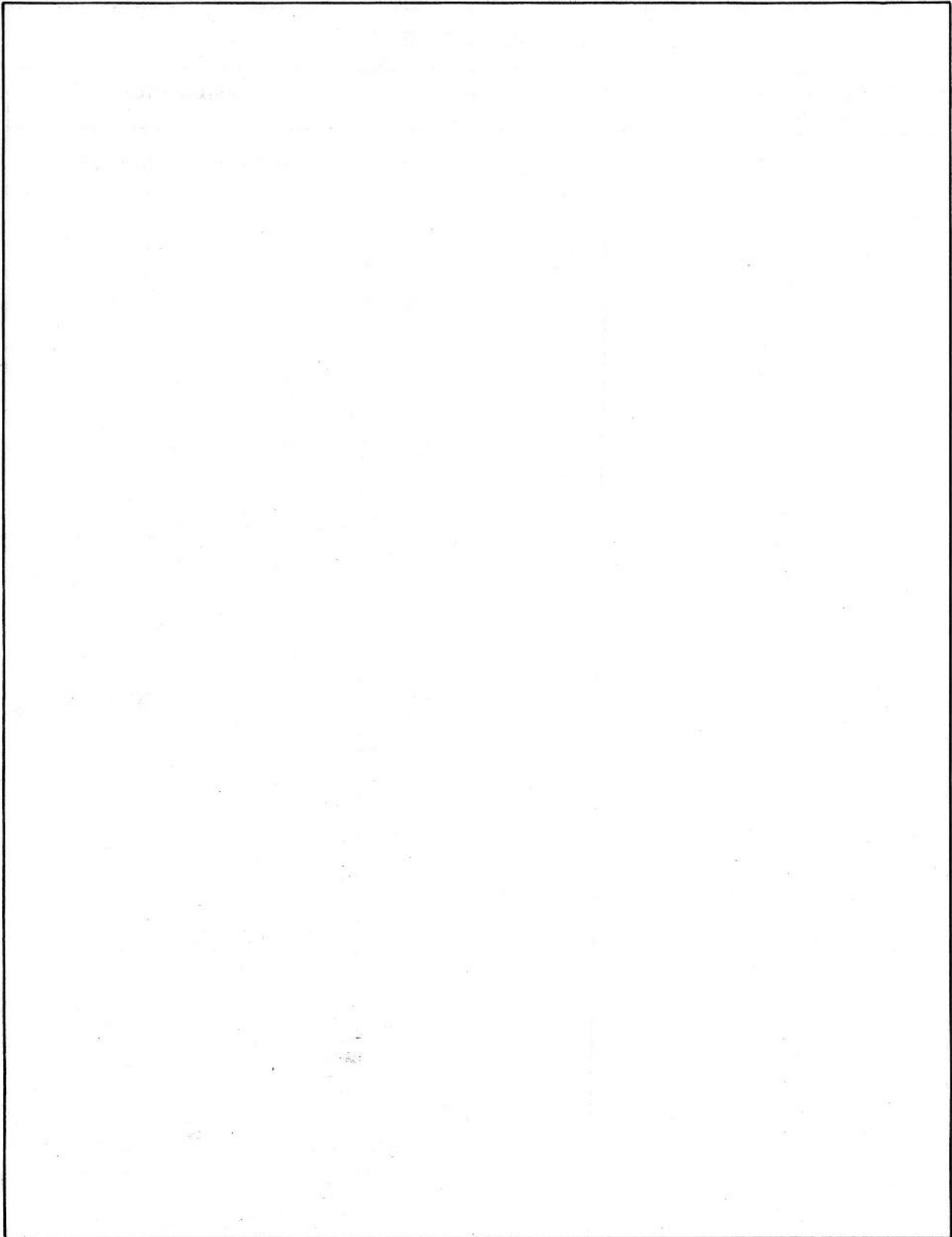
EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
		No modifications authorized.



GENERATOR SET PU-482/M

Generator Set PU-482/M

October 1961

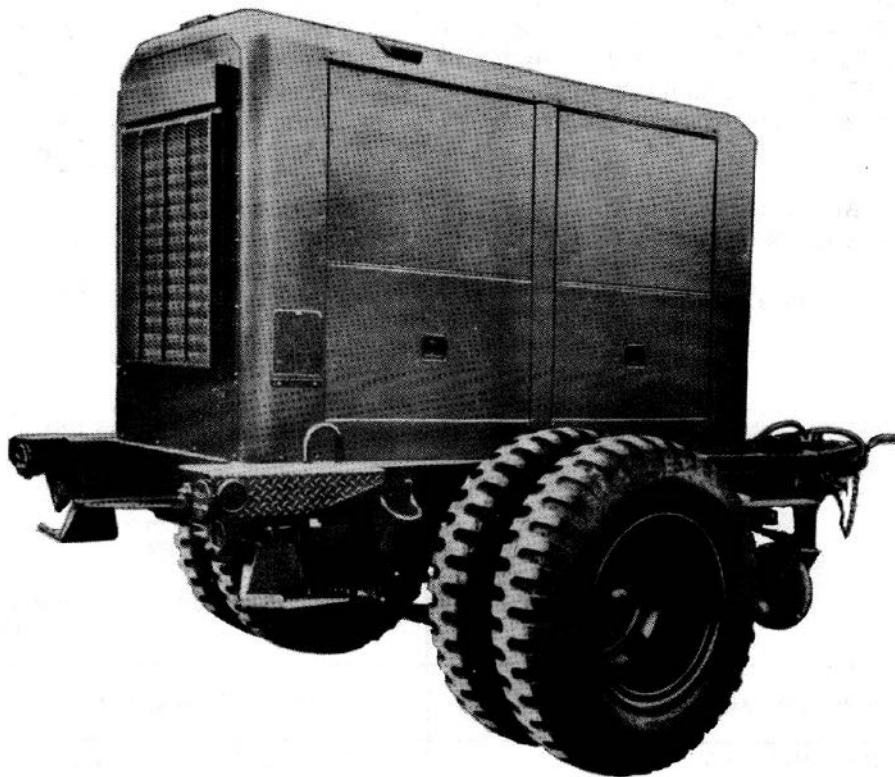


GENERATOR SET PU-493/M

October 1961

Generator Set PU-493/M

GENERAL DATA		MAJOR UNITS
F. S. N:	6115-820-9811	(1) Engine Detroit Diesel Engine Division, General Motors Corporation, Model 4913
ID Number:	02998A	
Function:	Power source.	(1) Generator American Marc Inc., Model KBA 460, Trailer, Model M200A1
Manufacturer:	Libby Welding Co., Kansas City, Mo.	
Contracts:	70986	
Approximate price:	\$6,000.00	
Recommended operational checkout interval:	<u>BI-WEEKLY</u> (under load)	

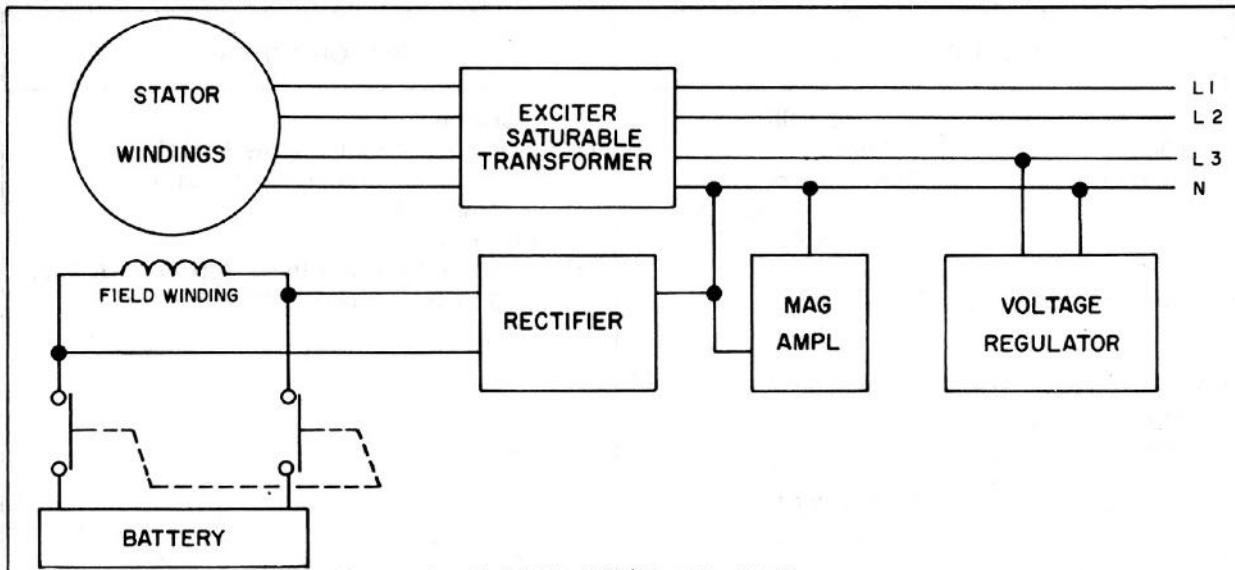


Generator Set PU-493/M.

# GENERATOR SET PU-493/M

Generator Set PU-493/M

October 1961



Generator Set PU-493/M, Block Diagram.

OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS							
<p><b>Use:</b> When fully equipped and properly adjusted, the generator set will develop and maintain a 60-KW output at 0.8 power factor at 1800 RPM for a minimum of 5000 operational hours at a frequency of 400 cycles per second.</p> <p><b>Used with:</b> Any of various equipments requiring 400 cycle power.</p> <p><b>Installation:</b> Mobile.</p>	<p><b>Engine:</b>                      Type: Diesel (2 cycle).                      Number of cylinders: 4.                      Bore: 4-1/4 in.                      Stroke: 5 in.                      Speed range: 350 to 2000 RPM.                      HP continuous - 1800 RPM: 93 HP.                      Compression ratio (nominal): 17 to 1.</p> <p><b>Generator:</b>  <b>Alternator:</b>                      Type: 400-cycle, 60 KW.                      Rating: 120, 208, 240, or 416 volt line-to-line.</p> <p><b>Exciter:</b> Static type.                      Maximum ambient operating temperature: 125°F (51.7°C).                      Voltage regulator: American Marc, 102550.</p>							
SIMILAR EQUIPMENTS	PHYSICAL CHARACTERISTICS							
<p>Generator Set PU-296/G.</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 33%;">Unit</th> <th style="width: 33%;">Overall Weight (in lbs)</th> <th style="width: 33%;">Cubic Feet</th> </tr> <tr> <td style="text-align: center;">PU-493/M</td> <td style="text-align: center;">6255 (mounted in trailer)</td> <td style="text-align: center;">775</td> </tr> </table>	Unit	Overall Weight (in lbs)	Cubic Feet	PU-493/M	6255 (mounted in trailer)	775	
Unit	Overall Weight (in lbs)	Cubic Feet						
PU-493/M	6255 (mounted in trailer)	775						

PUBLICATIONS

TM-02998A-15, Generator Set Ded 60 KW-  
AC PU-493/M, Jun 61.

SL-4-02998A, Gen Set Die Trl/Mtd  
PU-493/M, Nov 61.

GENERATOR SET PU-493/M

Generator Set PU-493/M

October 1961

MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
	Multimeter: 0 to 6 VDC 0 to 50 ohms  Megger: 200 megohms	AN/PSM-4A  AN/PSM-2A	TS-352/U  TS-27/TSM*	TM-02998A-15, paragraphs 5-6-1 through 5-6-7.
	* Non T/A item			

GENERATOR SET PU-493/M

October 1961

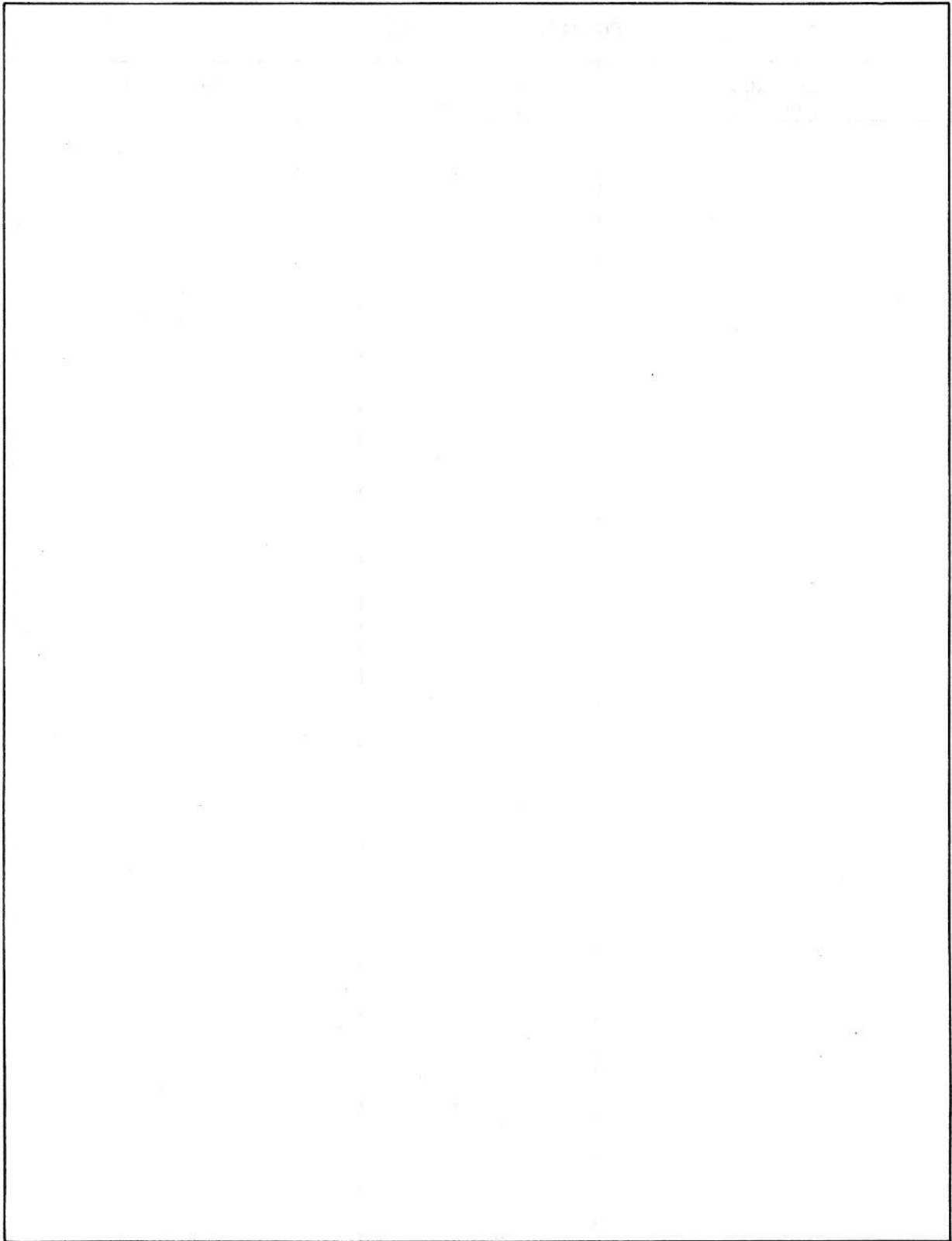
Generator Set PU-493/M

EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
		No modifications authorized.

GENERATOR SET PU-493/M

Generator Set PU-493/M

October 1961

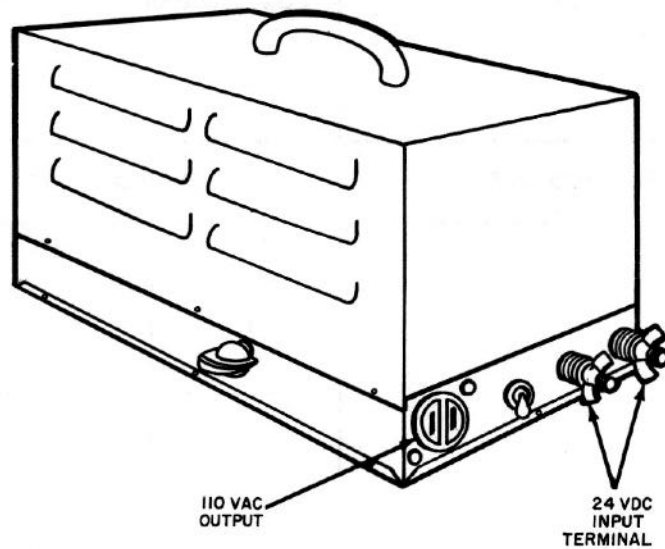


# INVERTER VIBRATOR PP-1277/U

October 1961

Inverter Vibrator PP-1277/U

GENERAL DATA	MAJOR UNITS
<p>F. S. N:                   6125-574-7687                      ID Number:               00253A                      Function:                 Power source.                      Manufacturer:           Wilmar Manufacturing                                                    Co., Inc.                                                    Kansas City, Mo.</p> <p>Contracts:                NOM 66258</p> <p>Approximate price: \$73.00                      Recommended                      operational                      checkout                      interval:                 <u>BI-WEEKLY</u></p>	<p>(1)   Inverter Vibrator PP-1277/U</p>



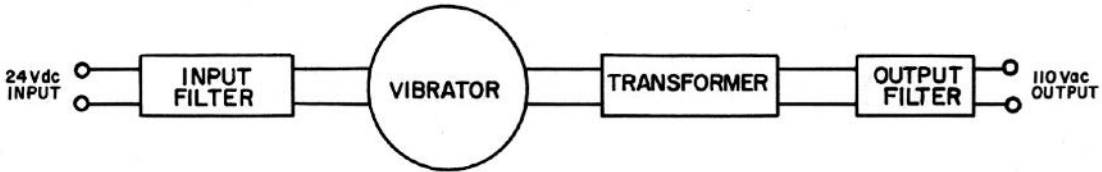
Inverter Vibrator PP-1277/U.



# INVERTER VIBRATOR PP-1277/U

Inverter Vibrator PP-1277/U

October 1961



Inverter Vibrator PP-1277/U, Block Diagram.

OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS		
<p><b>Use:</b> Inverter Vibrator PP-1277/U is designed to provide 110-volt, 60-CPS power from a 24-VDC source.</p> <p><b>Used with:</b> Various small electrical devices within the power limitations of the PP-1277/U such as tape recorders, small radio receivers and test instruments.</p> <p><b>Installation:</b> Portable.</p>	<p><b>Input voltage:</b> 24 VDC.</p> <p><b>Input current:</b> 6 amperes maximum.</p> <p><b>Output voltage:</b> 110 VAC.</p> <p><b>Frequency:</b> 60 CPS <math>\pm</math> 2 CPS.</p> <p><b>Power output:</b> 25, 50, 75, and 100 watts.</p>		
SIMILAR EQUIPMENTS	PHYSICAL CHARACTERISTICS		
	Unit	Overall Weight (in lbs)	Cubic Feet
	PP-1277/U	20	0.70 (crated)

PUBLICATIONS

NAVMC ELECT 2004, Inverter Vibrator  
PP-1277/U.

SIG M8, Inverter Vibrator PP-1277/U,  
Dec 54.  
SL-3-00253A, Inverter Vibrator  
Nov 61.

INVERTER VIBRATOR PP-1277/U

Inverter Vibrator PP-1277/U

October 1961

MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Maintenance	Multimeter: 28 VDC and 110 VAC	AN/PSM-4A	TS-352( )/U	NAVMC ELECT 2004, Section 4.
	Capacitance bridge	ZM-11/U	60007	

INVERTER VIBRATOR PP-1277/U

October 1961

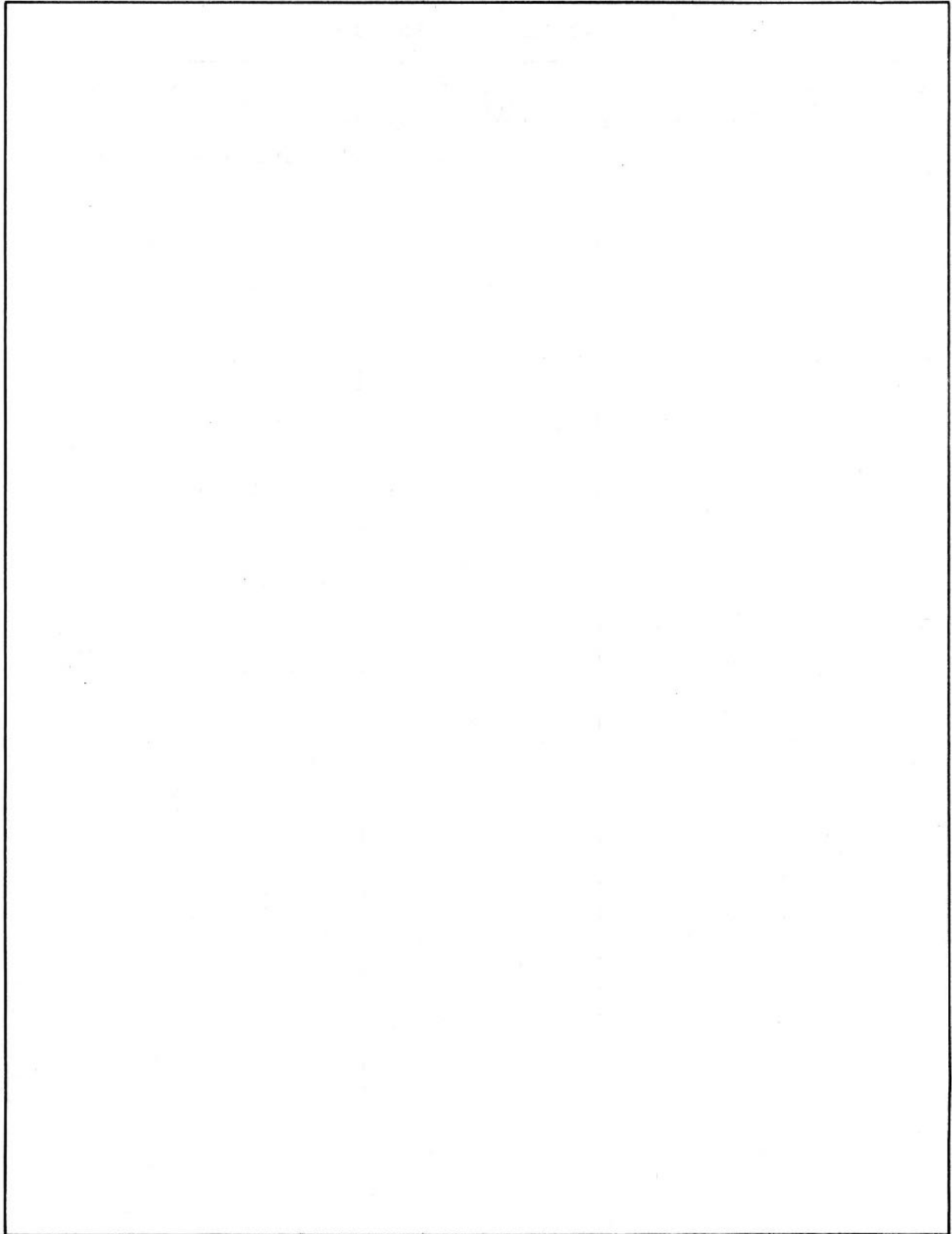
Inverter Vibrator PP-1277/U

EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
		No modifications authorized.

INVERTER VIBRATOR PP-1277/U

Inverter Vibrator PP-1277/U

October 1961

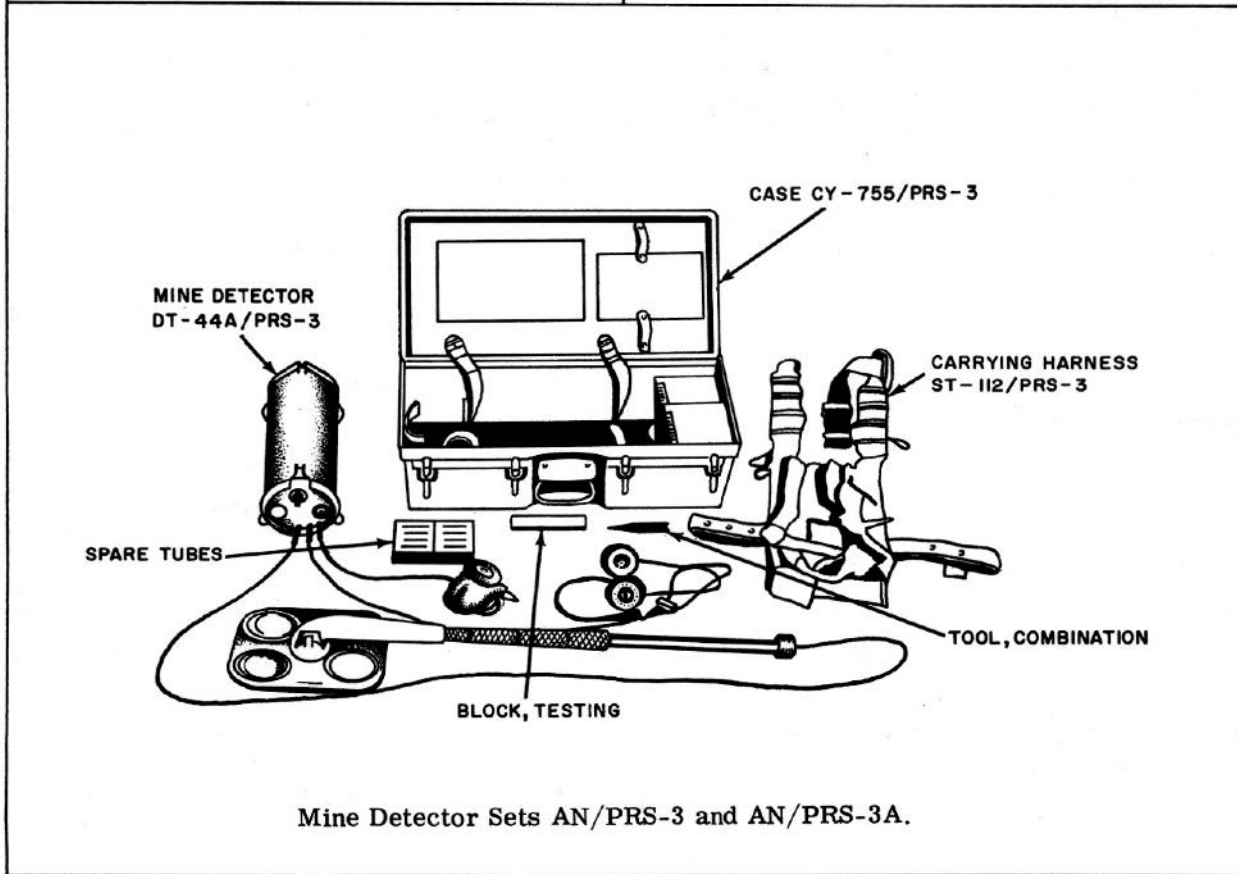


MINE DETECTOR SETS AN/PRS-3 AND AN/PRS-3A

October 1961

Mine Detector Sets AN/PRS-3 and AN/PRS-3A

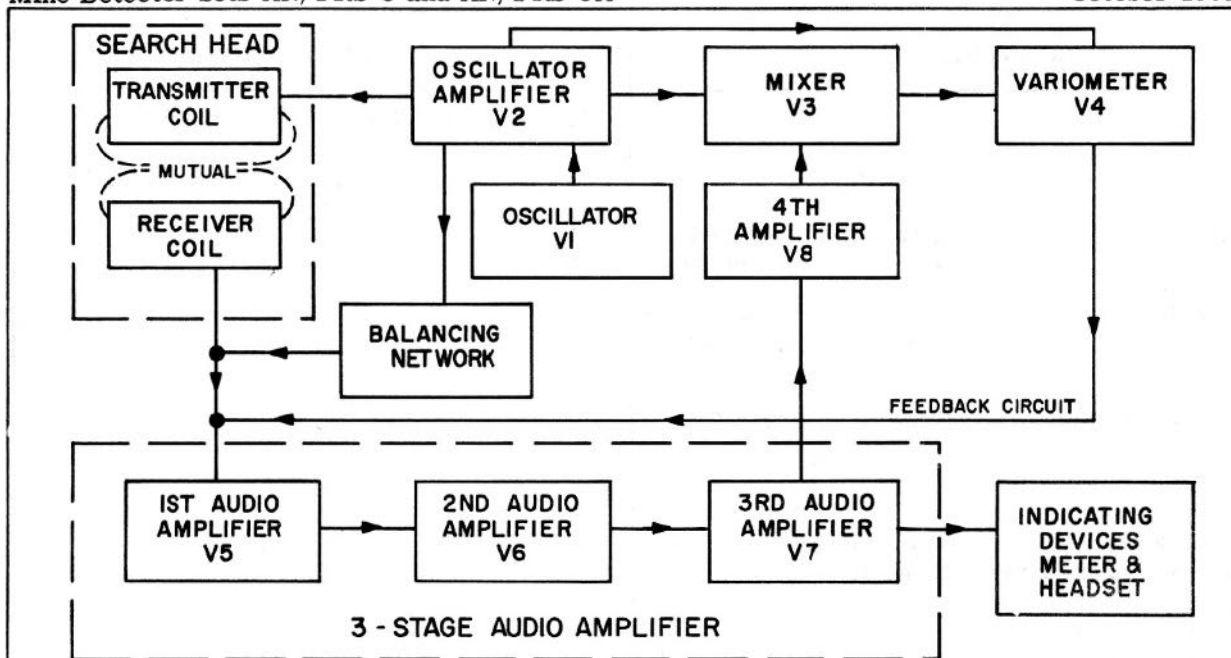
GENERAL DATA		MAJOR UNITS	
F. S. N:	AN/PRS-3, 6625-223-7295 AN/PRS-3A, 6665-599-9964	(1)	Mine Detector DT-44A/PRS-3
ID Number:	AN/PRS-3, 00089A AN/PRS-3A, 00089B	(1)	Case CY-755/PRS-3
Function:	Antipersonnel and anti-tank type mine detector	(1)	Carrying Harness ST-112/PRS-3
Manufacturer:	General Electric Co. Syracuse, N. Y.	(1)	Combination Tool
Contracts:	1944-PH-51-7	(1)	Testing Block
Approximate price:	\$350.00	(1)	Set of Spare Tubes
Recommended operational checkout interval:	<u>WEEKLY</u>		



MINE DETECTOR SETS AN/PRS-3 AND AN/PRS-3A

Mine Detector Sets AN/PRS-3 and AN/PRS-3A

October 1961



Mine Detector Sets AN/PRS-3 and AN/PRS-3A Block Diagram.

OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS													
<p>Use: Detector Set AN/PRS-3( ) is intended for detecting metallic antitank or antipersonnel mines that are buried or hidden from sight. The presence of a metal object is indicated visually on a meter and audibly by a 1000-cycle tone in the headset. An arctic modification kit is used with equipment when operated in temperatures below 31°F.</p> <p>Used with:</p> <p>Installation: Portable</p>	<p>Operating frequency: 965 to 1035 CPS</p> <p>Temperature range:                      Operating: -25°F to 125°F                      Storage: -80°F to 165°F</p> <p>Batteries:                      Normal operation: One A battery BA-15A                      Two B batteries BA-51                      Winter operation: One A battery BA-2015A/U                      Two B batteries BA-2015/U</p> <p>Voltage rating: A battery 1.1 to 1.5 V                      B battery 110 to 135 V</p> <p>Average life: 4 to 6 hours</p>													
SIMILAR EQUIPMENTS	PHYSICAL CHARACTERISTICS													
<p>Mine detecting sets AN/PRS-3A1, AN/PRS-3B, AN/PRS-3C, AN/PRS-3D, and AN/PRS-4.</p>	<table border="1"> <thead> <tr> <th>Unit</th> <th>Overall Weight (in lbs)</th> <th>Cubic Feet</th> </tr> </thead> <tbody> <tr> <td>AN/PRS-3</td> <td>50</td> <td>2.5</td> </tr> <tr> <td>AN/PRS-3A</td> <td>87</td> <td>3.5</td> </tr> <tr> <td></td> <td>(crated)</td> <td></td> </tr> </tbody> </table>	Unit	Overall Weight (in lbs)	Cubic Feet	AN/PRS-3	50	2.5	AN/PRS-3A	87	3.5		(crated)		
Unit	Overall Weight (in lbs)	Cubic Feet												
AN/PRS-3	50	2.5												
AN/PRS-3A	87	3.5												
	(crated)													

MINE DETECTOR SETS AN/PRS-3 AND AN/PRS-3A

October 1961

Mine Detector Sets AN/PRS-3 and AN/PRS-3A

PUBLICATIONS

D/L VOL I, Detector-Set AN/PRS-3,  
May 52.  
SIG M8, Detector AN/PRS-3, AN/PRS-3A,  
AN/PRS-3B, Nov 57.  
TM 11-210, Detector Sets AN/PRS-3,  
AN/PRS-A1, AN/PRS-B, AN/PRS-C, and  
AN/PRS-D, Dec 56.

TM 11-4074, Detector Sets AN/PRS-3,  
AN/PRS-A1, AN/PRS-B, AN/PRS-C, and  
AN/PRS-D, Jan 57.  
D/L VOL I, Detector Set AN/PRS-3A,  
Dec 56.



MINE DETECTOR SETS AN/PRS-3 AND AN/PRS-3A

Mine Detector Sets AN/PRS-3 and AN/PRS-3A

October 1961

MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Operator's and organizational maintenance	Multimeter: 0 to 110 VDC	TS-352 ( )/U	AN/PSM-4A	TM5-6665-201-12. Chapter 3, Section II, paragraph 36.
	Tube tester	TV-7/U	TV-4/U* TV-3( )/U*	
Alinement and adjustments	Audio oscillator: 1000 to 2000 CPS	TS-382 ( )/U	LO ( ) LAJ-4*	TM5-6665-201-34, Chapter 2, Section XI, paragraphs 72 through 79.
	Oscilloscope	OS-8 ( )/U	AN/USM-24C	
	VTVM: 5 millivolts to 29.0 volts AC	ME-30A/U	HP-400D* ME-6C/U	
	*Non T/A item			

MINE DETECTOR SETS AN/PRS-3 AND AN/PRS-3A

October 1961

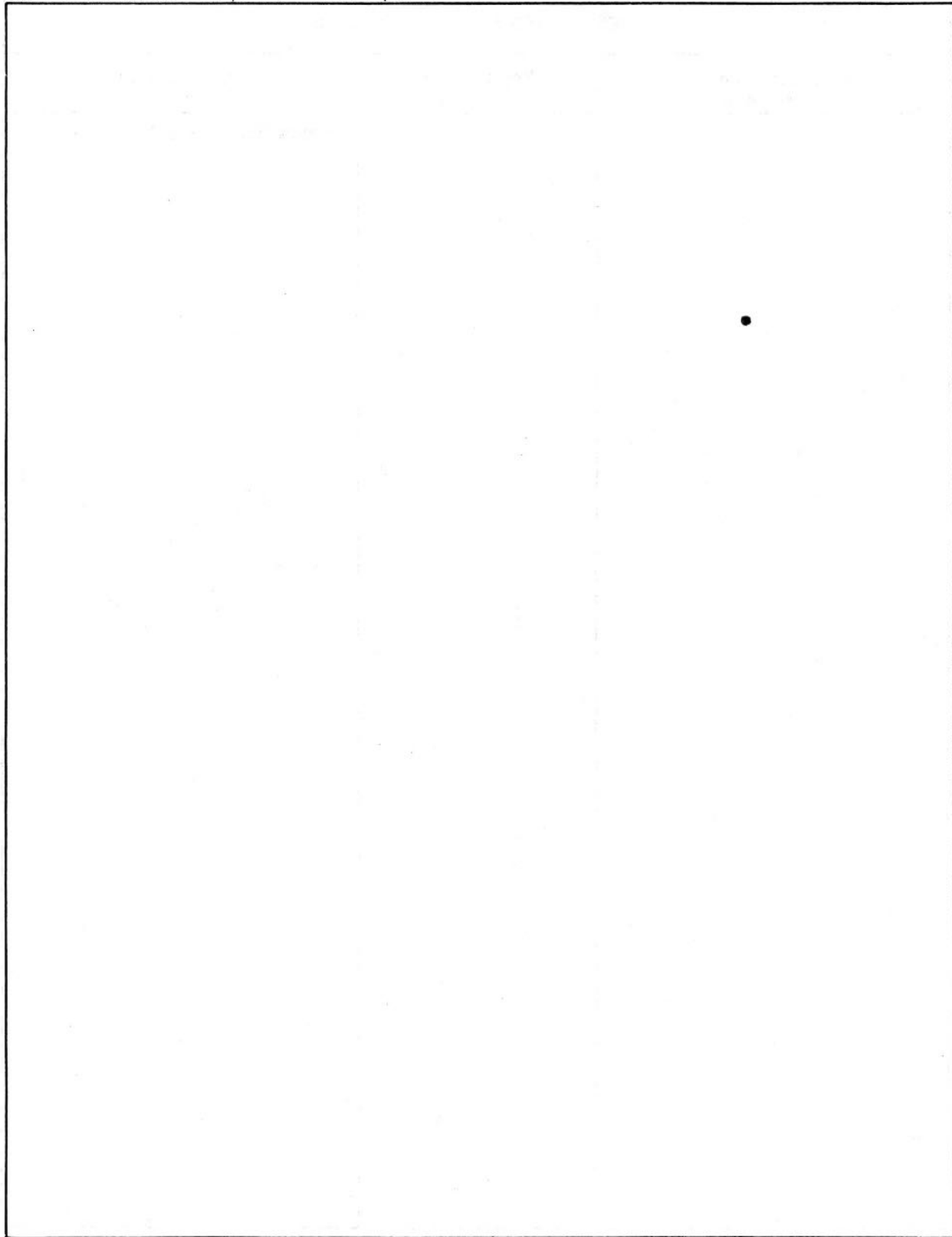
Mine Detector Sets AN/PRS-3 and AN/PRS-3A

EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
		No modifications authorized.

MINE DETECTOR SETS AN/PRS-3 AND AN/PRS-3A

Mine Detector Sets AN/PRS-3 and AN/PRS-3A

October 1961

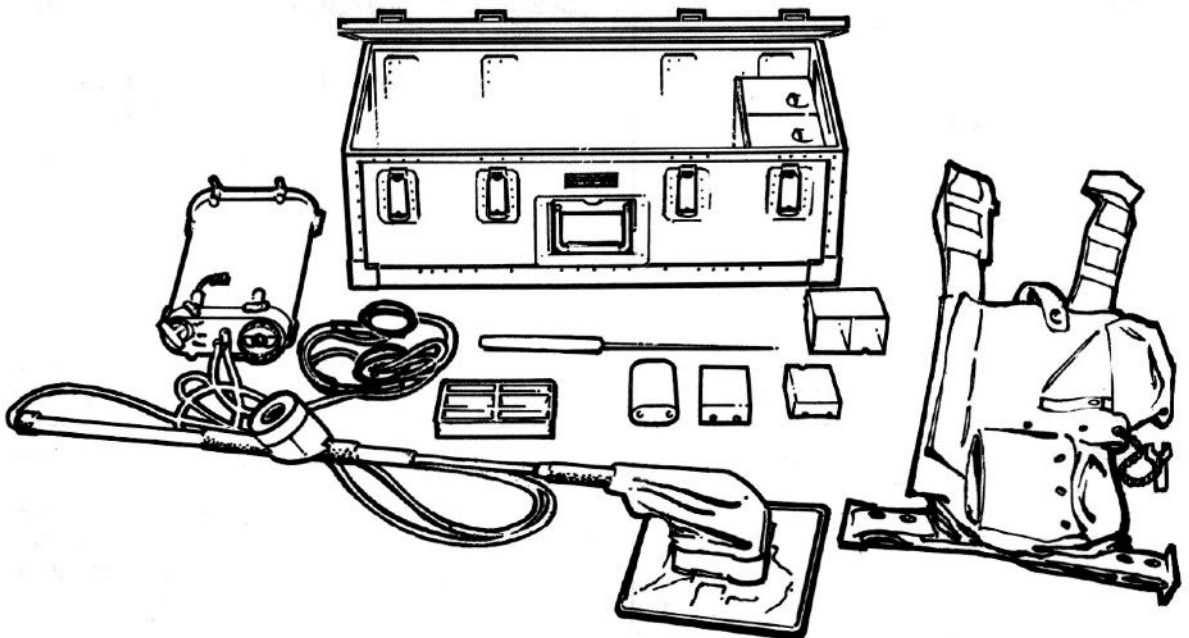


MINE DETECTING SET AN/PRS-4

October 1961

Mine Detecting Set AN/PRS-4

GENERAL DATA	MAJOR UNITS
<p>F. S. N: 6665-537-4001                      ID Number: 00090A                      Function: Detects buried metallic and non-metallic objects.</p> <p>Manufacturer: Emerson Radio and Phono. Silver Springs, Md.                      Contracts: DA-44-009-326</p> <p>Approximate price: \$800.00                      Recommended operational checkout interval: <u>WEEKLY</u></p>	<p>(1) Case Set CY-1510/PRS-4                      (1) Mine Detector DT-107/PRS-4                      (1) Amplifier                      (1) Handle, 57 inches extended                      (1) Electrical headset, 520 ohms                      (1) Meter assembly                      (1) Search-head assembly                      (1) Harness-Knapsack CW-325/PRS-4                      (1) Modification Kit (for adaption to arctic use).                      (1) Open end wrench</p>

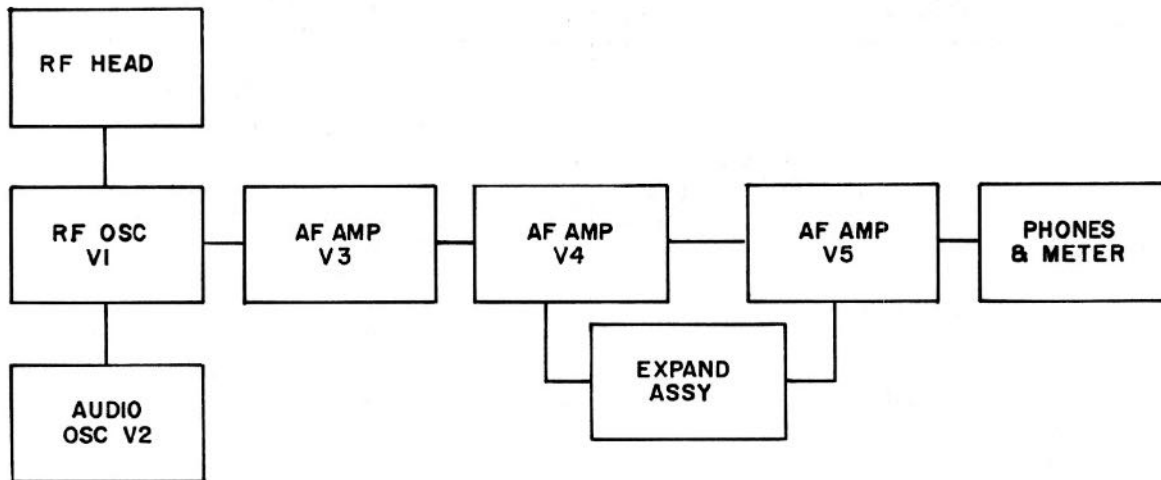


Mine Detecting Set AN/PRS-4.

# MINE DETECTING SET AN/PRS-4

Mine Detecting Set AN/PRS-4

October 1961



Mine Detecting Set AN/PRS-4, Block Diagram.

OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS		
<p>Use: To detect buried metallic and non-metallic antipersonnel mines.</p> <p>Used with:</p> <p>Installation: Portable.</p>	<p>RF oscillator frequency: 39 MC <math>\pm</math> 10 MC.</p> <p>Modulator frequency: 1000 CPS <math>\pm</math> 50 CPS.</p> <p>Operating temperature range: -25°F to + 125°F.</p> <p>Battery complement: One BA-15-A, Two BA-51.</p> <p>Battery life: Eight to ten hours.</p>		
SIMILAR EQUIPMENTS	PHYSICAL CHARACTERISTICS		
<p>Mine Detecting Set AN/PRS-3 ( ).</p>	Unit	Overall Weight (in lbs)	Cubic Feet
	AN/PRS-4	110	3.80 (crated)

MINE DETECTING SET AN/PRS-4

Revised  
Jan 1962

Mine Detecting Set AN/PRS-4

PUBLICATIONS

SIG M8, Detecting Set Mine AN/PRS-4,  
Feb 54.  
SL-3-00090A, Detecting Set Mine AN/PRS-4,  
Oct 61.

SIG M8 SUPP, Detecting Set Mine  
AN/PRS-4, Oct 56.  
TM 5-9541, Detecting Set Mine  
AN/PRS-4, Sep 53

MINE DETECTING SET AN/PRS-4

Mine Detecting Set AN/PRS-4

October 1961

MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Organizational maintenance	No special tools or equipment required other than that which is supplied with the unit.			TM 5-9541, paragraph 31.
Performance tests	VTVM: 0.02 millivolt to 95 VAC	Ballentine 300	ME-6C/U	TM 5-9541, paragraph 89.
	Frequency meter: 380 to 400 MC	Lavoie model 105SM	AN/URM 32	
	Oscilloscope:	Dumont 304 H	AN/USM-50* AN/USM-24 ( )	
	Signal generator: 950 to 1050 CPS	HP-205 AG	TS-382 ( )/U	
	Multimeter: 41 to 10 VDC	HP-410B	ME-25 ( )/U TS-505/U	
	*Non T/A item.			

October 1961

Mine Detecting Set AN/PRS-4

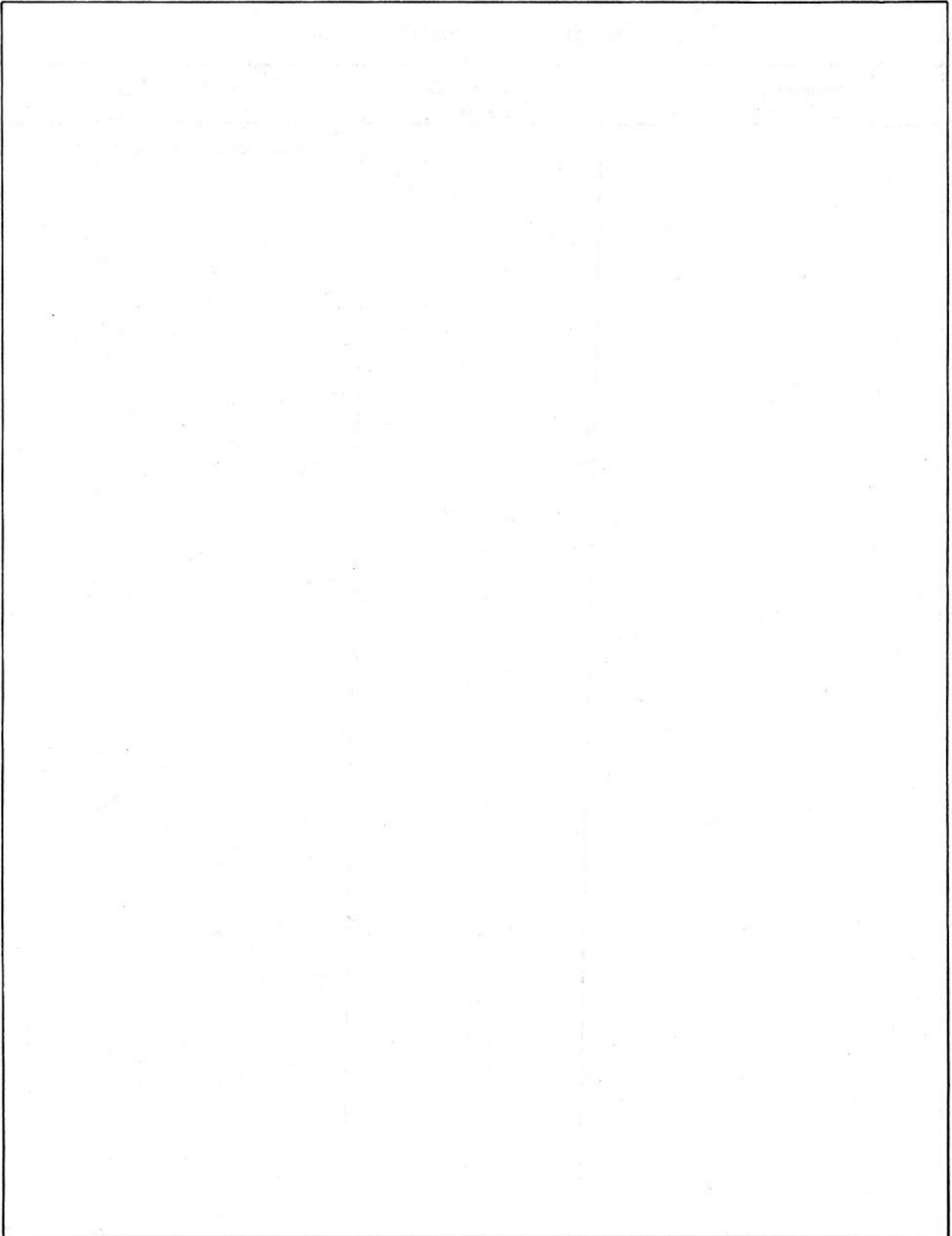
EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
		No modifications authorized.



MINE DETECTING SET AN/PRS-4

Mine Detecting Set AN/PRS-4

October 1961

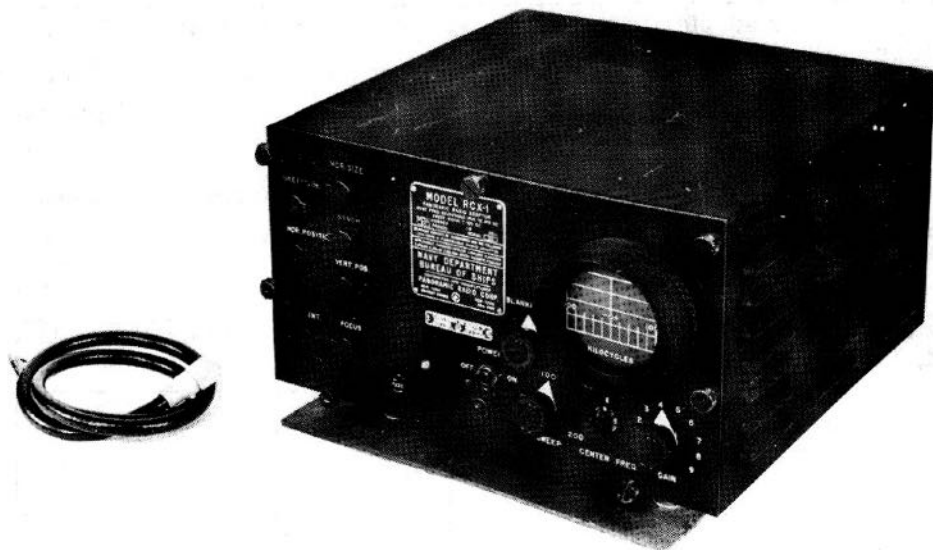


PANORAMIC INDICATOR RCX

October 1961

Panoramic Indicator RCX

GENERAL DATA	MAJOR UNITS
<p>F. S. N: 5820-665-1878                      ID Number: 00007A                      Function: Video presentation of a band of the radio spectrum.                      Manufacturer: Panoramic Radio Corp. Mt. Vernon, N. Y.                      Contracts: NXss 33781, NXsr 56811, NXsr 64122, NXrs 41003.                      Approximate price: \$640.00                      Recommended operational checkout interval: <u>WEEKLY</u></p>	<p>(1) Panoramic Adapter, Navy Model RCX, Navy type CPN 55135.</p>

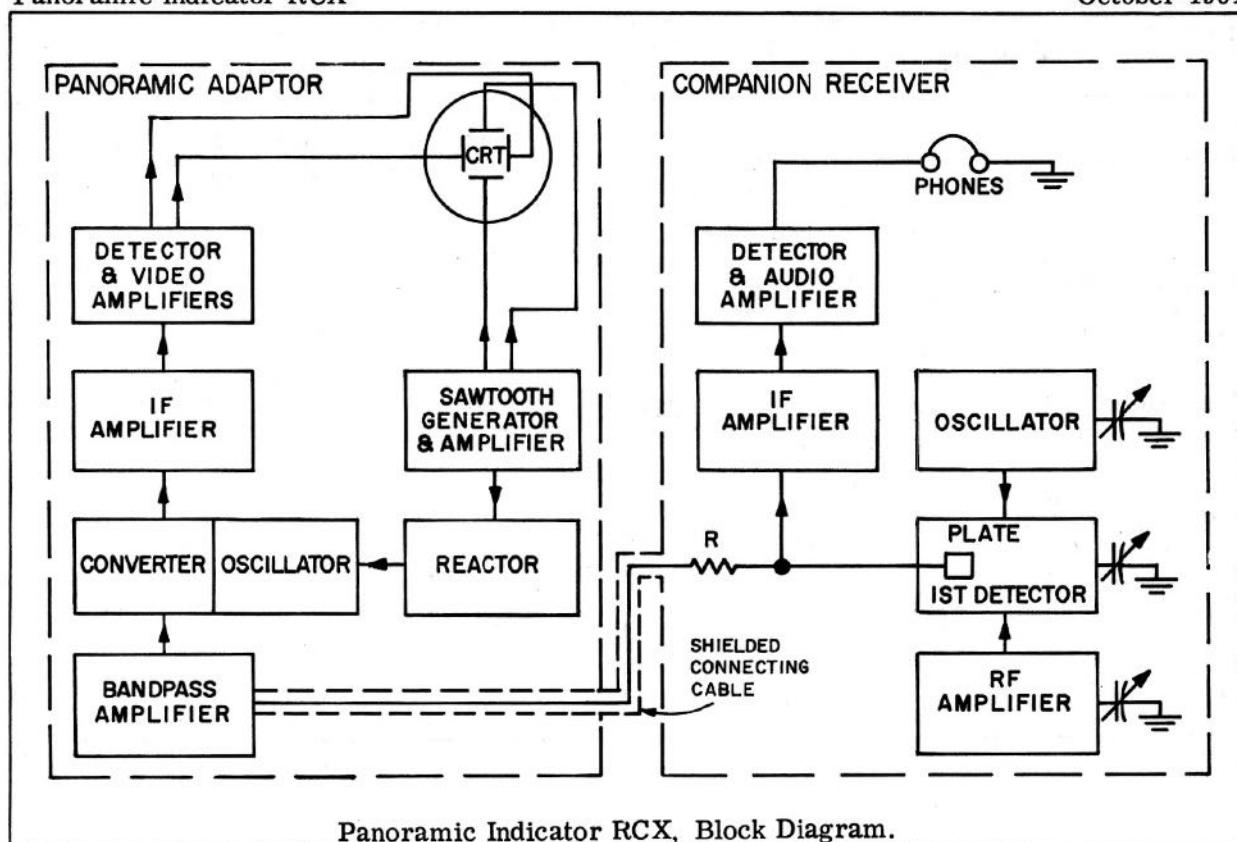


Panoramic Indicator RCX.

PANORAMIC INDICATOR RCX

Panoramic Indicator RCX

October 1961



Panoramic Indicator RCX, Block Diagram.

OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS								
<p>Use: The panoramic adaptor is a device which allows the operator to visualize the radio spectrum through the medium of a cathode ray tube.</p> <p>Used with: Any radio receiver whose impedance and IF are compatible.</p> <p>Installation: Ground, mobile, ship.</p>	<p>Maximum sweepwidth: 200 KC.</p> <p>Input frequency: 450 to 470 KC.</p> <p>Power source: 115/230 volts, 50/70 CPS.</p> <p>Sweep waveform: Linear sawtooth.</p> <p>Input impedance: 50,000 ohms.</p>								
SIMILAR EQUIPMENTS	PHYSICAL CHARACTERISTICS								
<p>Panoramic Adapters, Navy models RBW-2, RBW-2M, RCX-1, RBU-1, and RBV-1.</p>	<table border="1"> <thead> <tr> <th data-bbox="716 1413 881 1487">Unit</th> <th data-bbox="881 1413 1147 1487">Overall Weight (in lbs)</th> <th data-bbox="1147 1413 1341 1487">Cubic Feet</th> </tr> </thead> <tbody> <tr> <td data-bbox="716 1487 881 1832">RCX</td> <td data-bbox="881 1487 1147 1832">151</td> <td data-bbox="1147 1487 1341 1832">10.4 (crated)</td> </tr> </tbody> </table>	Unit	Overall Weight (in lbs)	Cubic Feet	RCX	151	10.4 (crated)		
Unit	Overall Weight (in lbs)	Cubic Feet							
RCX	151	10.4 (crated)							

PANORAMIC INDICATOR RCX

October 1961

Panoramic Indicator RCX

PUBLICATIONS

NAVSHIPS 900, 288, Panoramic Indicator RCX.

SIG M8, Panoramic Indicator RCX, May 50.

PANORAMIC INDICATOR RCX

Panoramic Indicator RCX

October 1961

MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Alignment procedure	Signal generator: 200 to 6000 KC.	AN/URM-25()	LP-5*	NAVSHIPS 900, 288-1B, Section V, paragraphs 1 and 2.
	Voltmeter: 1 to 950 VDC  Note: Oscilloscope OS-8/U or equivalent will permit examination of the sawtooth waveform. A 10-KC and 50-KC multivibrator will simplify the alignment procedure. However both equipments are optional.	AN/PSM-4	TS-352/U	
	* Non T/A item			

PANORAMIC INDICATOR RCX

October 1961

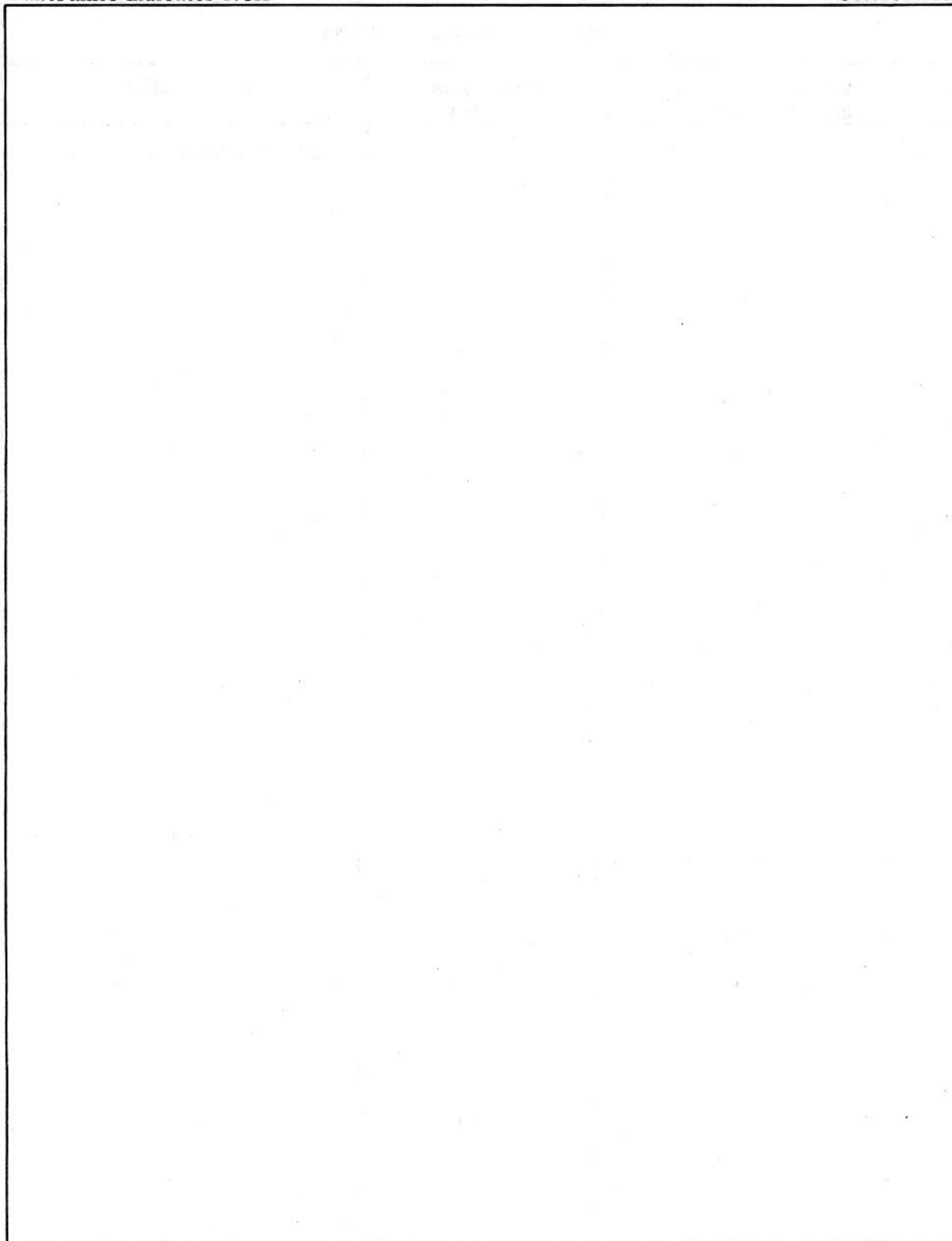
Panoramic Indicator RCX

EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
		No authorized modifications.

PANORAMIC INDICATOR RCX

Panoramic Indicator RCX

October 1961

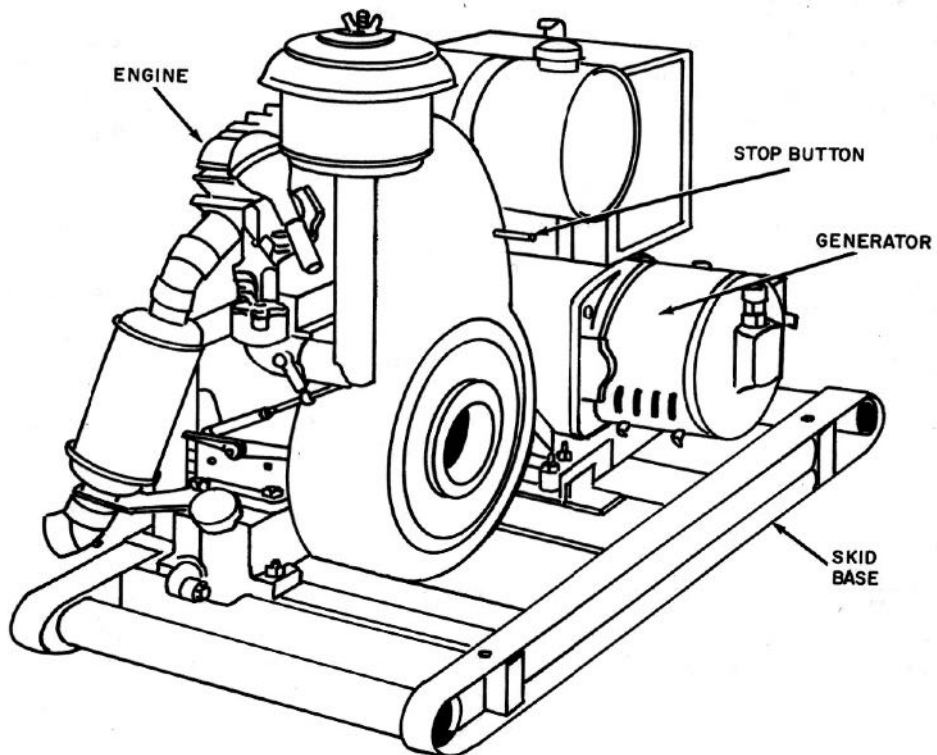


POWER UNIT PE-75 ( )

October 1961

Power Unit PE-75 ( )

GENERAL DATA		MAJOR UNITS	
F. S. N:	6115-228-5815	(1)	Engine with accessories
ID Number:	00241A	(1)	Generator with pulley and filter box
Function:	Power source	(1)	Outlet and filter box
Manufacturer:	Unknown	(1)	Toolbox with tools and running spare parts
Contracts:	Procured from Signal Corps.	(1)	Skid base
Approximate price:	\$325.00		
Recommended operational checkout interval:	<u>BI-WEEKLY</u> (under load)		



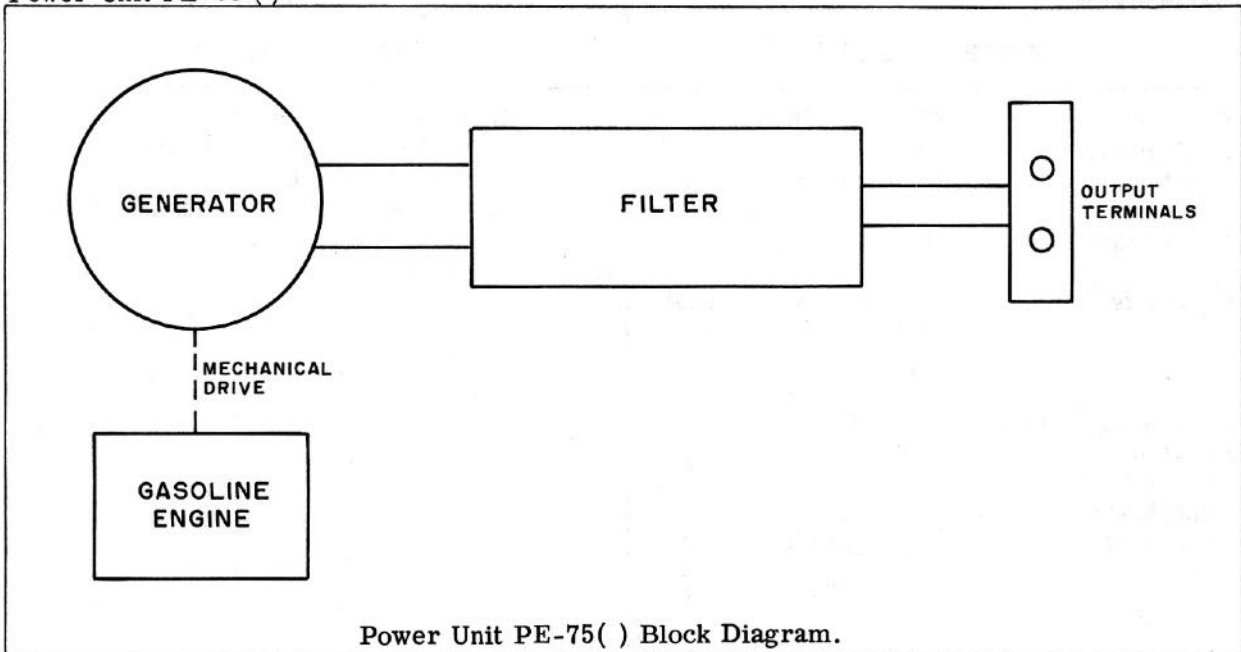
Power Unit PE-75( ).



POWER UNIT PE-75 ( )

Power Unit PE-75 ( )

October 1961



OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS									
<p>Use: Power Units PE-75-C through PE-75-W and PE-75-AA through PE-75-AE are self-contained, compact, portable, gasoline-engine-driven generating sets of the manual-starting type.</p> <p>Used with: Radio Terminal Set AN/MRC-62, Radio Repeater Set AN/MRC-63, Central Office Manual Switchboard MTC-2, and other various electronic equipments requiring 120 V 60 CPS power.</p> <p>Installation: Portable</p>	<p><b>Engine</b>            Model: ZZ.            Horsepower: 6 at 2200 RPM.            Cylinders: One.            Lube oil capacity: 4 pints.            Fuel capacity: 5 to 8 quarts.</p> <p><b>Generator</b>            Model: Westinghouse Type C                      Kurz and Root Type                      A102 Leland Type A</p> <p>Rating: 2.5 KW.            Voltage: 120.            Power factor: 100%.            Frequency: 58 to 62 CPS.            RPM: 1800.</p>									
SIMILAR EQUIPMENTS	PHYSICAL CHARACTERISTICS									
<p>Power Units PE-95 and PE-214 provide 110 V 60 CPS power but differ in physical size and amount of power output.</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 25%;">Unit</th> <th style="width: 50%;">Overall Weight ( in lbs )</th> <th style="width: 25%;">Cubic Feet</th> </tr> </thead> <tbody> <tr> <td>PE-75 ( )</td> <td style="text-align: center;">508</td> <td style="text-align: center;">18 (crated)</td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	Unit	Overall Weight ( in lbs )	Cubic Feet	PE-75 ( )	508	18 (crated)			
Unit	Overall Weight ( in lbs )	Cubic Feet								
PE-75 ( )	508	18 (crated)								

October 1961

Power Unit PE-75 ( )

## PUBLICATIONS

LO 11-900, Power Units PE-75 Series,  
Feb 45.  
TM 11-900, Power Units PE-75 Series,  
Sep 45.  
TM 11-6115-206-10P, Power Units PE-75  
Series, Jul 59.

TM 11-6115-206-20P, Power Units PE-75  
Series, Jul 59.  
TM 11-6115-206-35P, Power Units PE-75  
Series, Jul 59.

## POWER UNIT PE-75 ( )

Power Unit PE-75 ( )

October 1961

MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Preventive maintenance	No special tools or equipment required.			TM 11-900, paragraphs 22 through 47.
Repair	Multimeter: 0 to 36 VDC and 0 to 130 VAC	AN/PSM-4A	TS-352 ( )/U	TM 11-900, paragraphs 49 through 68.

October 1961

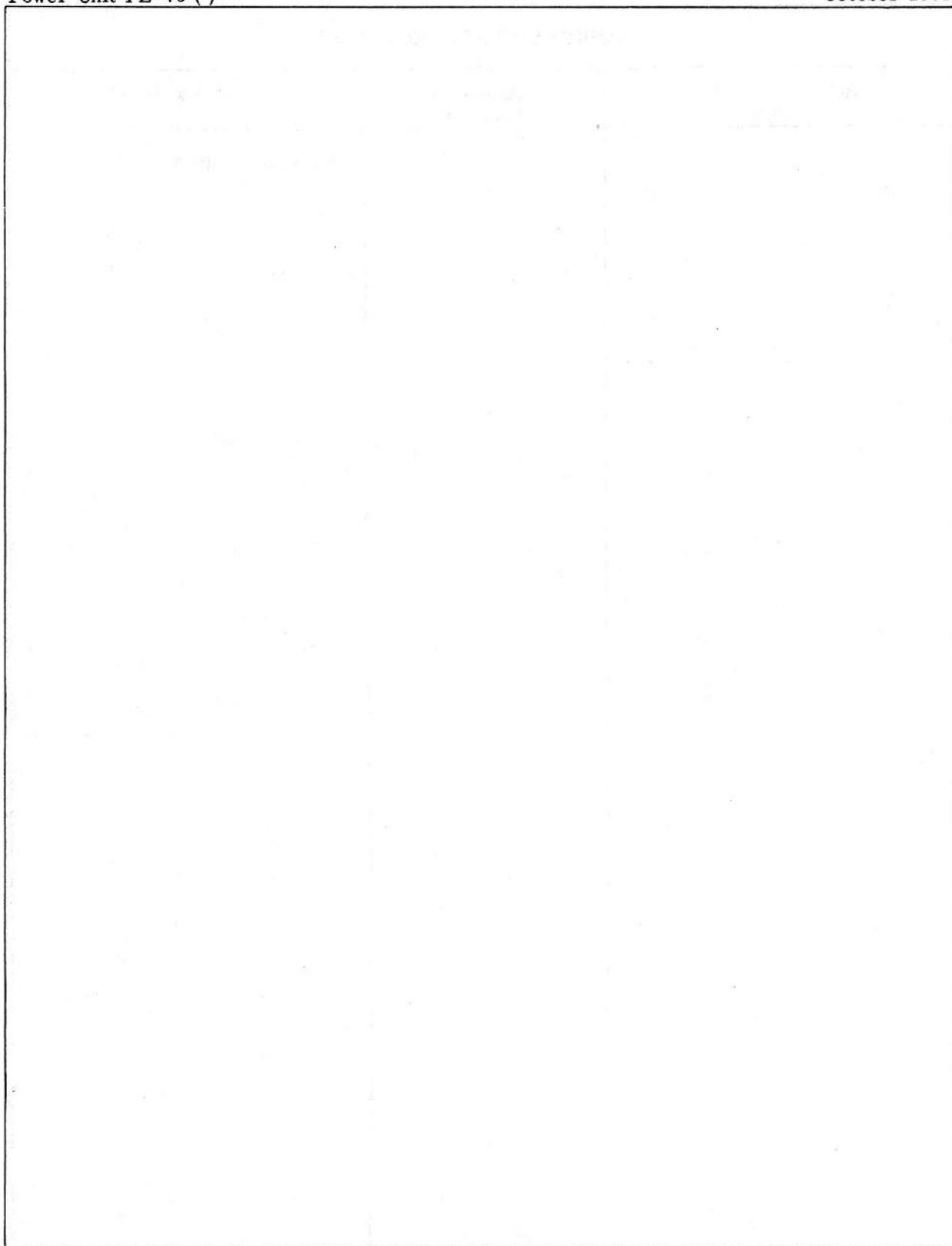
Power Unit PE-75 ( )

EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
		No modifications authorized.

POWER UNIT PE-75 ( )

Power Unit PE-75 ( )

October 1961

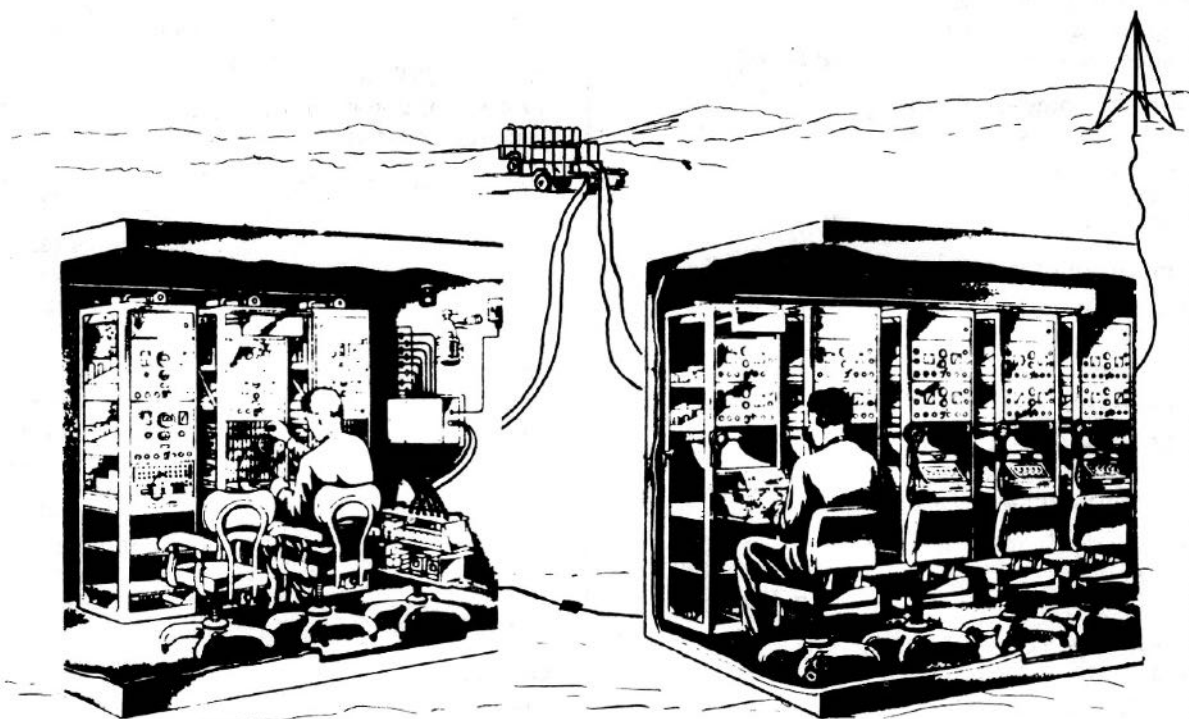


# RADIO INTERCEPT CONTROL SET AN/MTQ-3

October 1961

Radio Intercept Control Set AN/MTQ-3

GENERAL DATA	MAJOR UNITS
<p>F. S. N: 5820-563-3557                      ID Number: 00078A                      Function: Provides facilities for the supervision and control of intercept activities.                       Manufacturer: Emerson Radio &amp; Phono Silver Springs, Md.                       Contracts: USMC MIPR-R57-2111                       Approximate price: \$36,500.00                      Recommended operational checkout interval: <u>DAILY</u></p>	<p>(1) Radio Intercept Control Set AN/TTQ3                      (9) Power Supply Control Group OA-323/G                      (8) Radio Intercept Group )A-596/TTQ-3                      (2) Shelter S-44/G</p>



*Radio Intercept Control Set AN/TTQ-3.*

*Radio Intercept Group OA-596/TTQ-3.*

**Radio Intercept Control Set AN/MTQ-3.**

RADIO INTERCEPT CONTROL SET AN/MTQ-3

Radio Intercept Control Set AN/MTQ-3

October 1961

OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS
<p>Use: Radio Intercept Control Set AN/MTQ-3 permits monitoring of radio signals that are intercepted at any or all of 40 individual intercept operating positions located in remote intercept groups, such as Radio Intercept Group OA-596/TTQ-3.</p> <p>Used with: Antenna Assemblies AS-341/G, Antenna Couplers CU-52/URR, Radio Receivers and Typewriters.</p> <p>Installation: Ground transportable.</p>	<p>Output impedance:                      AM-590/TTQ-3:                          Outgoing channel: 1000 ohms.                          Incoming channel: 250 ohms.</p> <p>AM-942/TTQ-3:                          Outgoing channel: 250 ohms.                          Incoming channel: 5000 ohms.</p> <p>Power requirements:                      Normal: 115 volts, 55 to 65 CPS, 1500 watts (This does not include power required for the radio receivers.)</p>
<p>SIMILAR EQUIPMENTS</p>	
<p>Radio Intercept Control Set AN/MTQ-4.</p>	<p>Emergency (intercommunication equipment only):</p>
<p>TECHNICAL CHARACTERISTICS</p>	<p>270 volts DC, 1 amp (for AM-942/TTQ-3)                      6 volts DC, 1 amp (for filaments); 6 volts DC, 25 amp (for signaling).</p>
<p>AN/TTQ-3:</p> <p>Number of intercept operator positions supervised: 40 (max).</p> <p>Normal voice-frequency input level (measured at input jacks):</p> <p>590/TTQ-3: 20 mv.                      942/TTQ-3: 20 mv.</p> <p>Amplifier distortion: (Max.) -5%.</p> <p>Amplifier gain:</p> <p>590/TTQ-3:                          Outgoing channel: 40 db.                          Incoming channel: 40 db.</p> <p>942/TTQ-3:                          Outgoing channel: 40 db.                          Incoming channel: 50 db.</p> <p>Amplifier frequency response: At 300 to 4500 cycles.</p> <p>Input impedance:</p> <p>AM-590/TTQ-3:                          Outgoing channel: 8000 ohms.                          Incoming channel: 1000 ohms.</p> <p>AM-942/TTQ-3:                          Outgoing channel: 2000 ohms.                          Incoming channel: 450 ohms.</p>	<p>OA-596/TTQ-3                      Number of receivers accommodated: 10</p> <p>Power requirements: 115 volts AC <math>\pm</math> 10% 55 to 65 CPS, 1300 watts (exclusive of radio receiver requirements).</p> <p>Facilities provided: Five identical intercept operator positions. Each can monitor with two radio receivers and can signal and communicate with supervisory personnel at a control set.</p> <p>OA-323/G                      Number of power units controlled: 2</p> <p>Time required for manual or automatic changeover cycle: 15 sec max.</p>

RADIO INTERCEPT CONTROL SET AN/MTQ-3

October 1961

Radio Intercept Control Set AN/MTQ-3

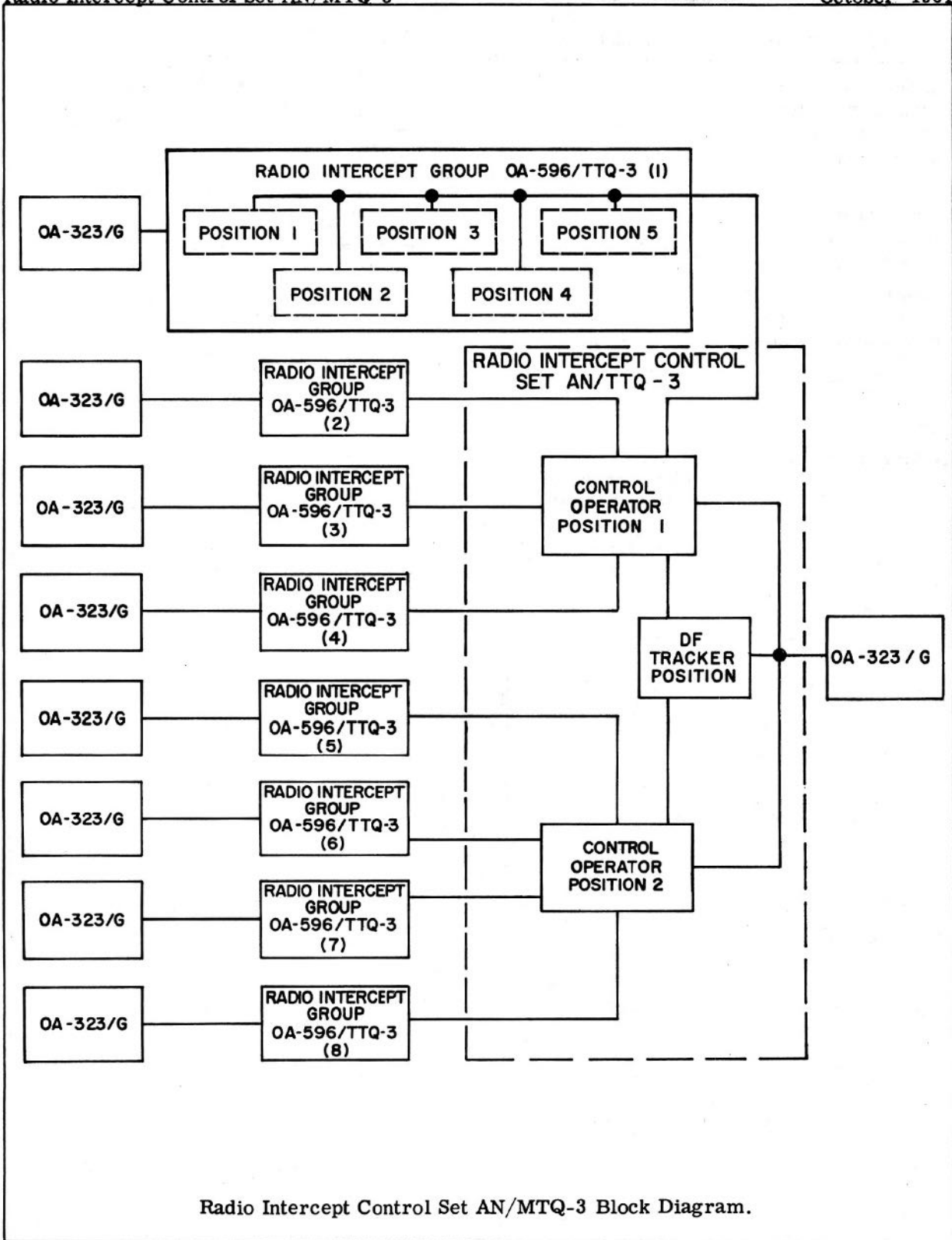
TECHNICAL CHARACTERISTICS	PHYSICAL CHARACTERISTICS		
<p>Voltage of power delivered from generator to control power supply: 115 VAC and 6 VDC.</p> <p>Voltage of power delivered from control power supply to load: 115 VAC.</p> <p>Generator output voltage below which automatic change-over occurs: 85 V.</p> <p>Power consumption:                      AC: 5 W at 115 V.                      DC: 3 W at 6 V.</p> <p>Testing facilities: Self-contained AC voltmeter in remote switching control to measure generator output.</p>	Unit	Overall Weight (in lbs)	Cubic Feet
	AN/MTQ-3	18629 (mounted in 2-1/2-ton 6 x 6 truck M35).	1718



RADIO INTERCEPT CONTROL SET AN/MTQ-3

Radio Intercept Control Set AN/MTQ-3

October 1961



Radio Intercept Control Set AN/MTQ-3 Block Diagram.

RADIO INTERCEPT CONTROL SET AN/MTQ-3

Revised  
April 1962

Radio Intercept Control Set AN/MTQ-3

PUBLICATIONS

<p>D/L VOL 1, Frequency Meter SCR-211, Sep 50. LO 9-8022, Lubrication Order, Aug 57. LO 11-2599, Shelters S-44/G, S-44A/G, S-44B/G, May 56. MPL 8013 MT 7-8-9, Forging Kit Deep Water, Dec 56 and Ch 1 Apr 57. RPL, Radio Intercept Cont Set AN-MTQ-3, Jul 58. SIG M8 SUPP, Connector Assembly Elect J-456/GR, Aug 57. SIG 7-8, Connector Assembly, Elect J-456/GR, Apr 57. SIG 7-8, Connector Assembly, Elect J-459/GR, May 57. SIG 7-8, Control Power Supply GRP OA-323/G, Nov 55. SIG 7-8, Holder, Antenna Coupler MT-1032/G, Feb 57. SIG 7-8, Radio Intercept Group OA-596/TTQ-3, Jun 56. SIG 7-8, Reeling Machine RL-176/G, Sep 55, and Ch 1 Mar 56. SL-3-00671A, Tool Kit Fld Maint 3 Ech Spcl Basic, Apr 60. SL-3-00682A, Tool Kit Field Maint 3 Ech Supp Gov, Apr 60. SL-3-00685A, Tool Set Carburetor RPR 3 thr 5 Ech, Apr 60. SL-3-01496A, Tool Kit Field Maint 4 Ech Supp Gov, Apr 60. SL-3-01502A, Tool Kit Org M 2nd Ech Spcl Set 8, Apr 60. SNL G-249 ORD 8 V10, Winterization Equipment M37, Feb 55. SNL G-742 ORD 8, Field and Depot Maint Allowances, Sep 57. SNL G-742 ORD 9, List of all Parts, Jan 55. TB ORD 245 Std/Proced Dep O/Haul Ord Tank Auto Aug 61. TB ORD 392, Int Lub New Rebuilt Gas Eng B Use, Sep 60. TB ORD 460, Liq Cool Eng-Equip Clean Drain Hole, Jul 52. TB ORD 467, M Series Veh Use Prop Fuel Tank Cap, Aug 52. TB ORD 485, M Models Servicing Data Plate Corr, Jan 53. TB ORD 499, 1/4, 3/4, 2-1/2T M Ser Veh Repl Switch, Mar 53. TB ORD 500, 2-1/2 5T M Ser Veh Weld Tie-Rod End, Apr 53.</p>	<p>TB ORD 524, Installed Metal Tanks Clean-Preserv, Jun 53. TB ORD 598, Operation of Power Plant Heaters, Apr 55. TB ORD 616, Tact-Comm Mover-Trlrs Intervh Conn, Aug 56. TB 9-245, Stand-Procdr F/Depot Recond Ordmatl, Feb 59. TB 9-248, Rubber Preserv Description-Application, Sep 58. TB 9-265, Discontinuance Red Paint Mk Lub Pts, Dec. 58. TB 9-282, Combat Veh Protect Insul Comm Equip, Sep 59. TB 9-300-1/1, Combat Veh Inspect-Preser D/Storage, May 60, Ch 1 Nov 61. TB 9-343, Ord Veh Install-Use Overhaul Plates, Apr 60. TB 9-819-16, Correction of Loose Vibration Damp, Mar 53. TB 9-1859-3, Time Schedule Guide, Mar 53 and Ch 1. TB 9-1870-1/1, Care Pneumatic Tires and Inner Tube, Jul 56. TB 9-1870-1/2, Pneum Tires Tubes Flaps Inst Unserv, Feb 57. TB 9-2300-206-15, Test-Rebuild 100 AMP 28 V Gen System, Nov 58. TB 9-2300-228-20, Trouble Shoot F/Ins Cluster Wiring, Jul 60. TB 9-2855-8, Installation of Personnel Heater Kt, Jul 54. TB 9-2855-9, Installation of Power Plant Heater, Jan 55. TB 9-2855-10, Installation of Hardtop Close Kit, Jul 53. TB 9-2855-41, Installation of Personnel Heater Kt, Dec 56. TB 9-8022-22, 2-1/2T 6x6 M Series Inst Thermostat, Apr 55. TB 9-8022-26, 2-1/2 M Series Trks Inst Air Gov, Nov 56. TM 9-207, Oper-Maint Ordmatl in Extreme Cold, Sep 59. TM 9-236, Military Tactical Vehicles, Sep 60. TM 9-1825B, Electrical Equipment Auto-Lite, Nov 52. TM 9-1827A, Power Brake Sys Bendix-Westinghouse, Feb 53.</p>
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RADIO INTERCEPT CONTROL SET AN/MTQ-3

Radio Intercept Control Set AN/MTQ-3

October 1961

PUBLICATIONS

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| <p>TM 9-1827C, Brake-Misc Equip Wagner-Lockhead, Jan 53.</p> <p>TM 9-1828A, Fuel Pumps, Dec 52, and Ch 1.</p> <p>TM 9-1829A, Ord Maint Speedometers Tachometers, Apr 44.</p> <p>TM 9-1870-1, Care and Maint of Pneumatic Tires, Feb 55, and Ch 1.</p> <p>TM 9-2320-209-20P, Organizational Repair Prts Sp Tools, Apr 59, and Ch 1.</p> <p>TM 9-2810, Tact Motor Veh Preventive Maint, Aug 58.</p> <p>TM 9-2853, Prep Ord Mtl F/Deep Water Fording, Jul 45, and Ch 1.</p> <p>TM 9-6140-200-15, Oper-Org F-D Maint Stor Bat Lead-AC, Jul 58.</p> <p>TM 9-8000, Principles of Automotive Vehicles, Jan 56.</p> <p>TM 9-8022, Operation and Organizational Maint, Dec 54, Ch 3, Ch 4 Oct 58, Ch 5, and Ch 6.</p> <p>TM 9-8023-1, Ord Maint Eng Clutch 2 1/2T 6x6 Trk, Mar 57, and Ch 1.</p> <p>TM 9-8023-2, Ord Maint Pwr Train Cab and Chassis, Mar 56, and Ch 1.</p> <p>TM 9-8023-3, Body and Auxiliary Equipment, Oct 55.</p> <p>TM 9-8615, Steering Gears, Jun 53.</p> <p>TM 9-8617, Winches Pwr Takeoff Divider Hyd Eq, May 55.</p> <p>TM 9-8621, Power Train Components, Dec 53.</p> | <p>TM 9-8623, Axles and Transfers, Apr 54 and Ch 1.</p> <p>TM 9-8627, Electrical Equipment Delco-Remy, Jun 53 and Ch 1.</p> <p>TM 9-8647, Carburetors, Aug 58.</p> <p>TM 9-8662, Fuel Burn Heat F/Winter Equipment, Mar 54.</p> <p>TM 10-500-20, Air Dly of Supp Equip of Truck M34, Nov 58, and Ch 1.</p> <p>TM 11-2599, Shelters S-44/G, S-44A/G, Jan 53.</p> <p>TM 11-5066, Radio Intercept Group OA-596/TTQ-3, Sep 55.</p> <p>TM 11-5068, Control Power Supply Grp OA-323/G, Aug 55.</p> <p>TM 11-5410-202-10P, Shelters S-44/G, S-44A/G, Dec 59.</p> <p>TM 11-5410-202-20P, Shelters S-44/G, S-44A/G, Nov 59.</p> <p>TM 11-5410-202-35P, Shelters S-44/G, S-44A/G, Nov 59.</p> <p>TM 11-5965-230-12P, Headsets HS-30 Series, Jul 59.</p> <p>TM 11-5965-230-35P, Headsets HS-30 Series, Jul 59.</p> <p>TM 11-6625-235-12P, Rectifier Power Unit RA-133, RA-133A, and RA-133B, Apr 59.</p> <p>TM 11-6625-235-35P, Rectifier Power Unit RA-133, RA-133A, and RA-133B, Apr 59.</p> <p>TM 21-300, Driver Selection and Training, Dec 58.</p> <p>TM 21-305, Manual for Wheeled Vehicle Driver, Dec 56 and Ch 1.</p> <p>TM 11240-1, USMC TM Tactical Mt Veh Prev Maint, Feb 61.</p> |
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RADIO INTERCEPT CONTROL SET AN/MTQ-3

October 1961

Radio Intercept Control Set AN/MTQ-3

MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
OA-323/G Organizational maintenance	Tool equipment Tool equipment Electron tube test set Multimeter	TE-41 TE-113 TV-7/U TS-297/U	TV-3 ( )/U AN/PSM-4A	TM 11-5068, paragraphs 29 through 41
Final testing	Multimeter: 0 to 115 VAC 0 to 6 VDC	TS-352 ( )/U	AN/PSM-4A	TM 11-5068, paragraphs 58 through 64.
OA-596/TTQ-3 Organizational maintenance	Tool equipment Tool equipment	TE-41 TE-113		TM 11-5066, paragraphs 46 through 65.
Alignment and final testing	Test set	TS-725/TTQ-3		TM 11-5066, paragraphs 112 through 115.
AN/TTQ-3 Organizational maintenance	Tool equipment Tool equipment Tool equipment	TE-41 TE-113 TE-114		TM 11-5067, paragraphs 59 through 76.
Final testing	Audio oscillator: 300 to 4600 CPS VTVM: 1.0 to 688 mv	TS382 ( )/U ME-6A/U	LO-( ) ME-30( )/U	TM 11-5067, paragraphs 161 through 171.

RADIO INTERCEPT CONTROL SET AN/MTQ-3

Radio Intercept Control Set AN/MTQ-3

October 1961

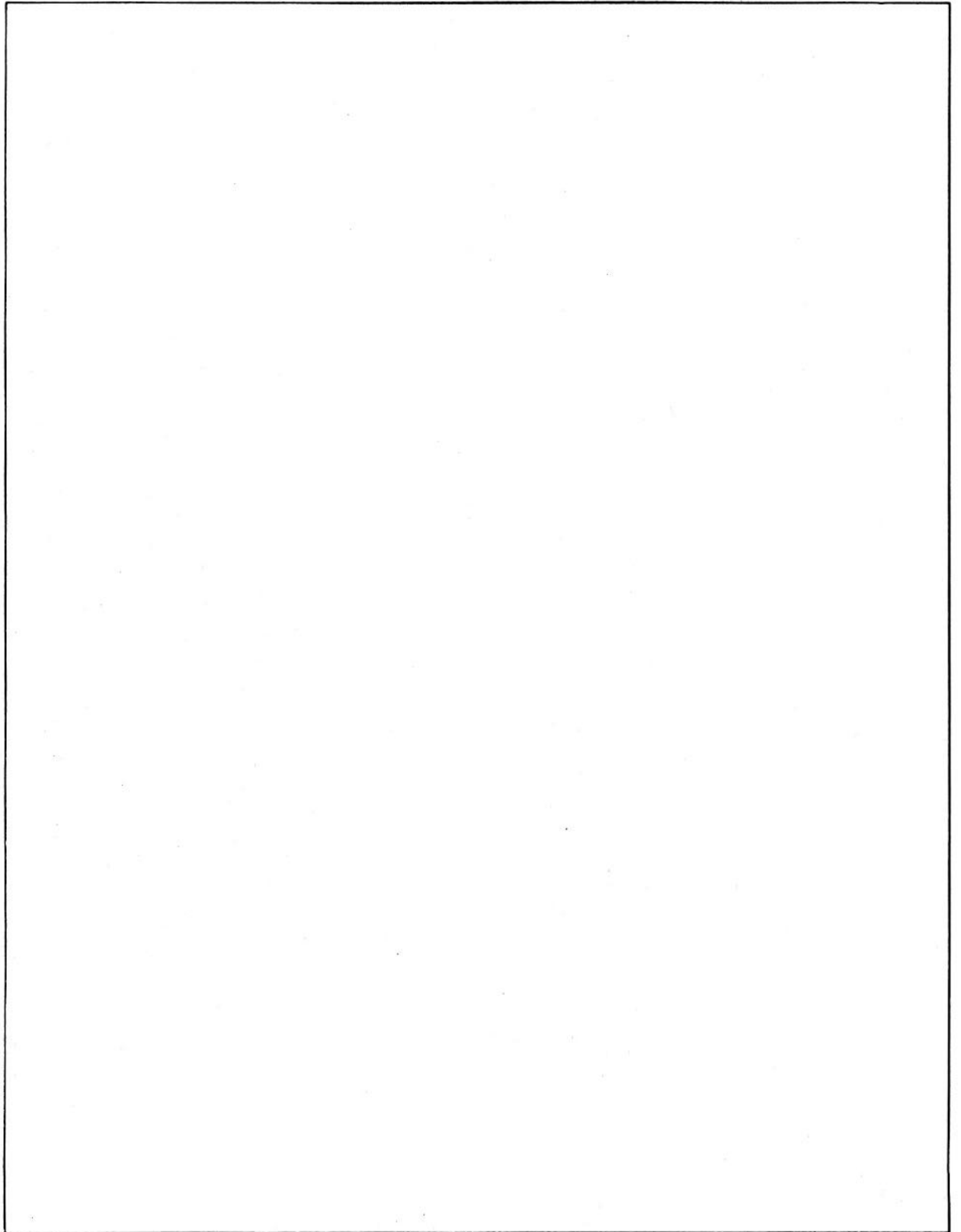
EQUIPMENT MODIFICATIONS

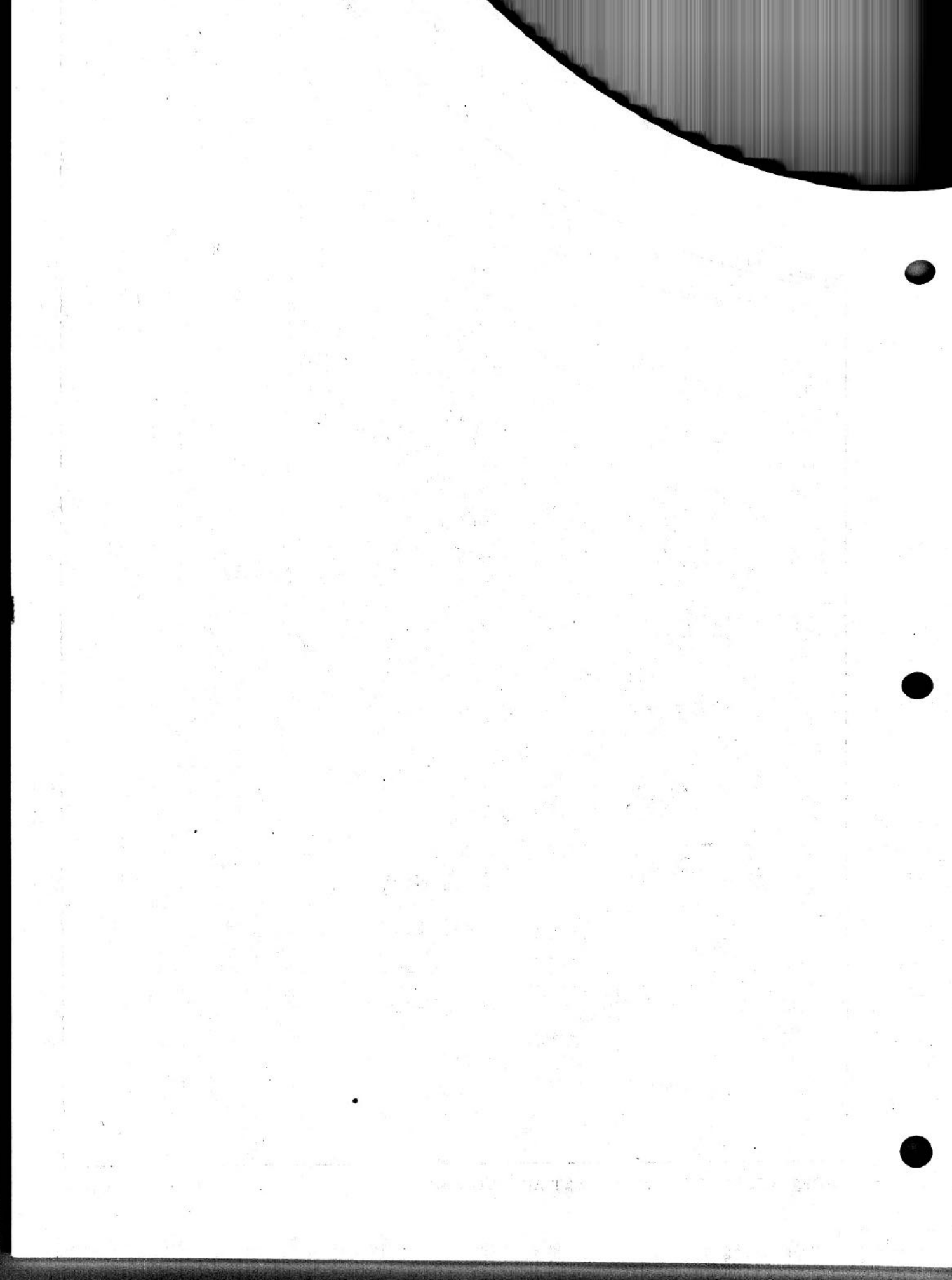
Authorization and Purpose	Equipments Affected	Identification
		No modifications authorized.

RADIO INTERCEPT CONTROL SET AN/MTQ-3

October 1961

Radio Intercept Control Set AN/MTQ-3



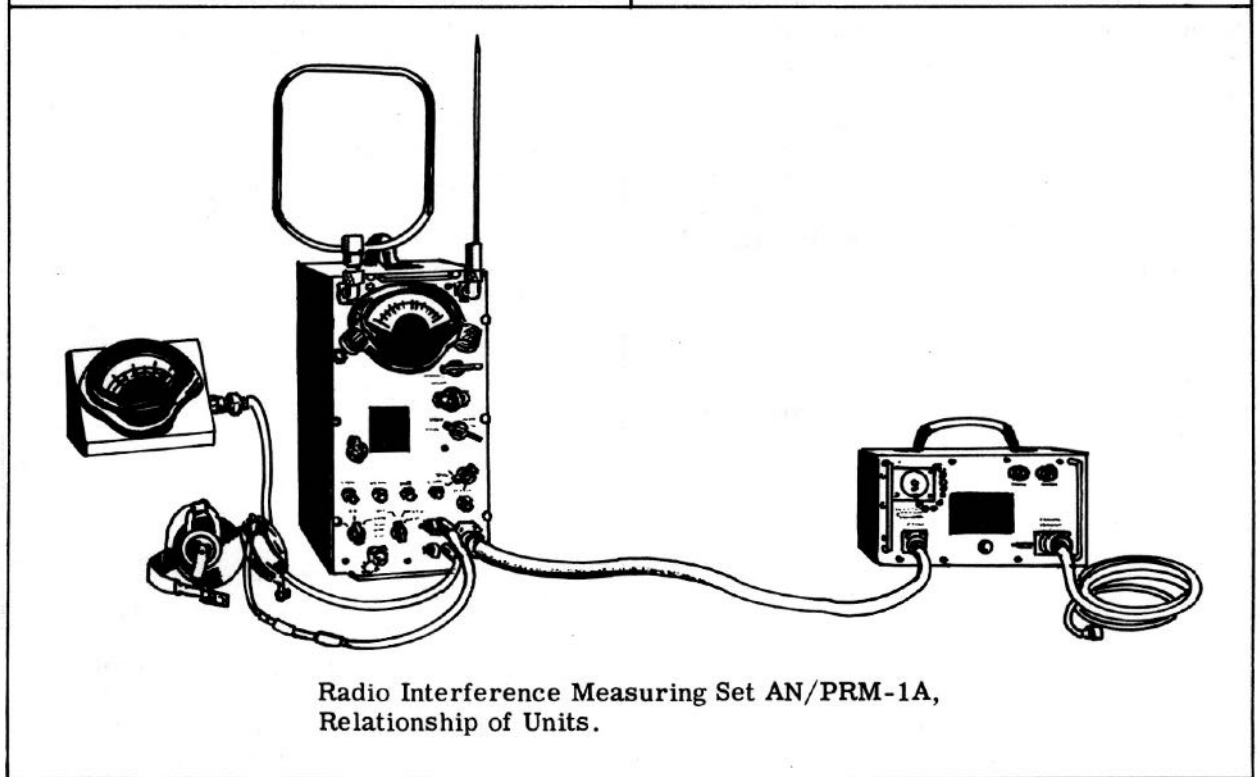


# RADIO INTERFERENCE MEASURING SET AN/PRM-1A

October 1961

Radio Interference Measuring Set AN/PRM-1A

GENERAL DATA	MAJOR UNITS
<p>F. S. N: 6625-553-0216                      ID Number: 00088A                      Function: Measuring interference field intensity and adjusting directive antennas.                      Manufacturer: Stoddart Aircraft Radio Co., Inc., Hollywood 38, Calif.                      Contracts: NObsr 52629, 57211                      Approximate price: \$4,070.00                      Recommended operational checkout interval: <u>DAILY</u></p>	<ul style="list-style-type: none"> <li>(1) Radio Interference Field Intensity Meter IM-37A/PRM-1</li> <li>(1) Antennas AT-211/PRM-1, AT-212/PRM-1, and AT-213/PRM-1</li> <li>(1) RF Probe MX-980/PRM-1</li> <li>(1) Impedance Matching Networks CU-195/PRM-1, CU-196/PRM-1, and CU-197/PRM-1</li> <li>(1) Adapters UG-104/U, UG-105/U, and UG-537/U</li> <li>(1) Special Purpose Cable Assembly CG-572/U</li> <li>(1) Chart Set PT-117/PRM-1</li> <li>(1) Headphones (Navy type 49507A or equivalent)</li> <li>(2) Instruction Book NAVSHIPS 91806</li> <li>(1) Power Supply PP-472B/PRM-1</li> <li>(1) Ammeter ME-33/U</li> <li>(1) Power Cable Assembly CADV-62480</li> <li>(1) Special Purpose Cable Assemblies CADV-62481, GC-571/U, and CG-573/U</li> <li>(1) Cord CG-444/U</li> </ul>





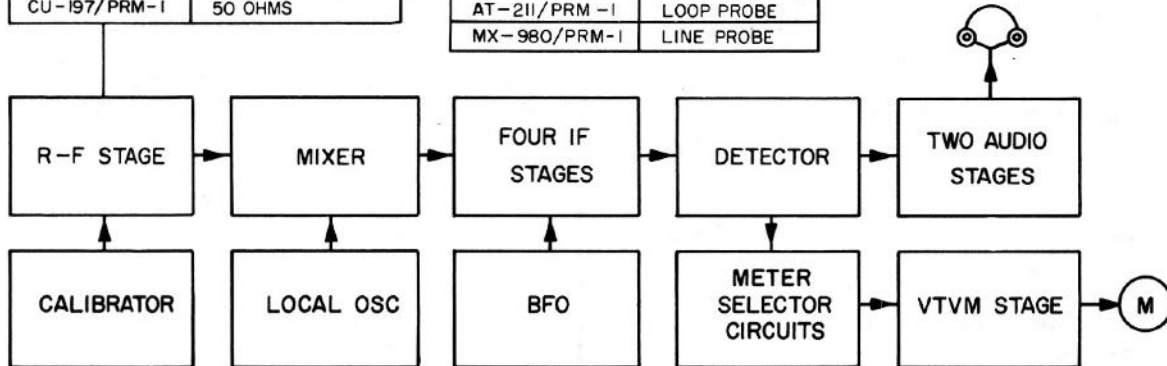
RADIO INTERFERENCE MEASURING SET AN/PRM-1A

Radio Interference Measuring Set AN/PRM-1A

October 1961

IMPEDANCE MATCHING NETWORKS	
CU-195/PRM-1	GENERAL PURPOSE
CU-196/PRM-1	20 OHMS
CU-197/PRM-1	50 OHMS

ANTENNAS	DESCRIPTION
AT-213/PRM-1	41" ROD
AT-212/PRM-1	LOOP
AT-211/PRM-1	LOOP PROBE
MX-980/PRM-1	LINE PROBE



Radio AN/PRM-1A, Simplified Block Diagram.

OPERATIONAL CHARACTERISTICS

Use: Radio Test Set AN/PRM-1A is a portable radio interference measuring equipment used for radio interference surveys to determine the source of radiated or conducted interference from any source within its frequency range. Field intensity measurement surveys may be made with this equipment for adjusting directive antennas or for exploring radiation patterns where the field intensity may vary over a wide range of values. Radio Test Set AN/PRM-1A is suitable for operation aboard naval vessels, at shore stations, in the field, in aircraft and in military vehicles.

Used with:

Installation: AN/PRM-1A is a portable equipment with no provision for permanent mounting.

TECHNICAL CHARACTERISTICS

Frequency range: 150 KC to 25,000 KC in seven bands.

Selectivity: The effective noise bandwidth of the equipment varies from approximately two to five kilocycles.

Image rejection: 50 db or better.

AC power requirements of power supply PP-472B/PRM-1:

- (1) Voltage: 105-125 VAC or 210-250 VAC
- (2) Phase: single
- (3) Frequency: 50-1600 CPS
- (4) Power consumption: 25 watts
- (5) Power factor: 87%

Batteries required when AC is not available:

When the self-contained battery power supply is used, the following are required:

- (1) Filament: 1.5 volts at 0.8 amperes; use two Battery JAN BA-35, Navy Type 19010, or commercial type Burgess #4FH.
- (2) Plate: 90 volts at 0.030 amperes; use two Battery JAN BA-36, Navy Type 19005, or commercial type Burgess #5308.

Batteries used at all times:

- (1) Bias: 9 volts; use two Battery JAN BA-31, Navy Type 19013, or commercial type Burgess #5360. Also, 1.5 volts; use two Battery JAN BA-30, or commercial type Burgess #2 (Flashlight Cells).

RADIO INTERFERENCE MEASURING SET AN/PRM-1A

October 1961

Radio Interference Measuring Set AN/PRM-1A

SIMILAR EQUIPMENT	PHYSICAL CHARACTERISTICS		
AN URM-6: 14 to 250 KC TS-432 U: 150-350 KC; 550 to 20,000 KC AN URM-47: 20 to 400 MC TS-587A/U: 15 to 400 MC	Unit	Overall Weight (in lbs)	Cubic Feet
	AN/PRM-1A	242	16 (crated)
PUBLICATIONS			
D/L Vol II, AN/PRM-1A, Jul 59.		NAVSHIPS 91806, AN/PRM-1A, Dec 52. RPL-00088A, AN/PRM-1A, Jan 59.	

RADIO INTERFERENCE MEASURING SET AN/PRM-1A

Radio Interference Measuring Set AN/PRM-1A

October 1961

MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Corrective maintenance	Signal generator** 150 KC to 2.25 MC	AN/URM-25	*LP Series	NAVSHIPS 91806, Section 7, paragraph 9.  Section 7, paragraph 6-b.  Section 7, paragraph 10-c.
	Signal generator: 2.25-25 MC	TS-497/URR	*Model 80 VHF Signal Generator	
	Multimeter: 20,000 ohms-per-volt	TS-352/U	AN/PSM-4A	
	Oscilloscope	OS-8/U	AN/USM-24	
	Audio oscillator	LAJ series	TS-382/U	
Operator's maintenance	All above are normally fourth and fifth echelon  No special tools required			NAVSHIPS 91806, Section 5.

\*\* Two required.

\* Not a T/A item.

RADIO INTERFERENCE MEASURING SET AN/PRM-1A

October 1961

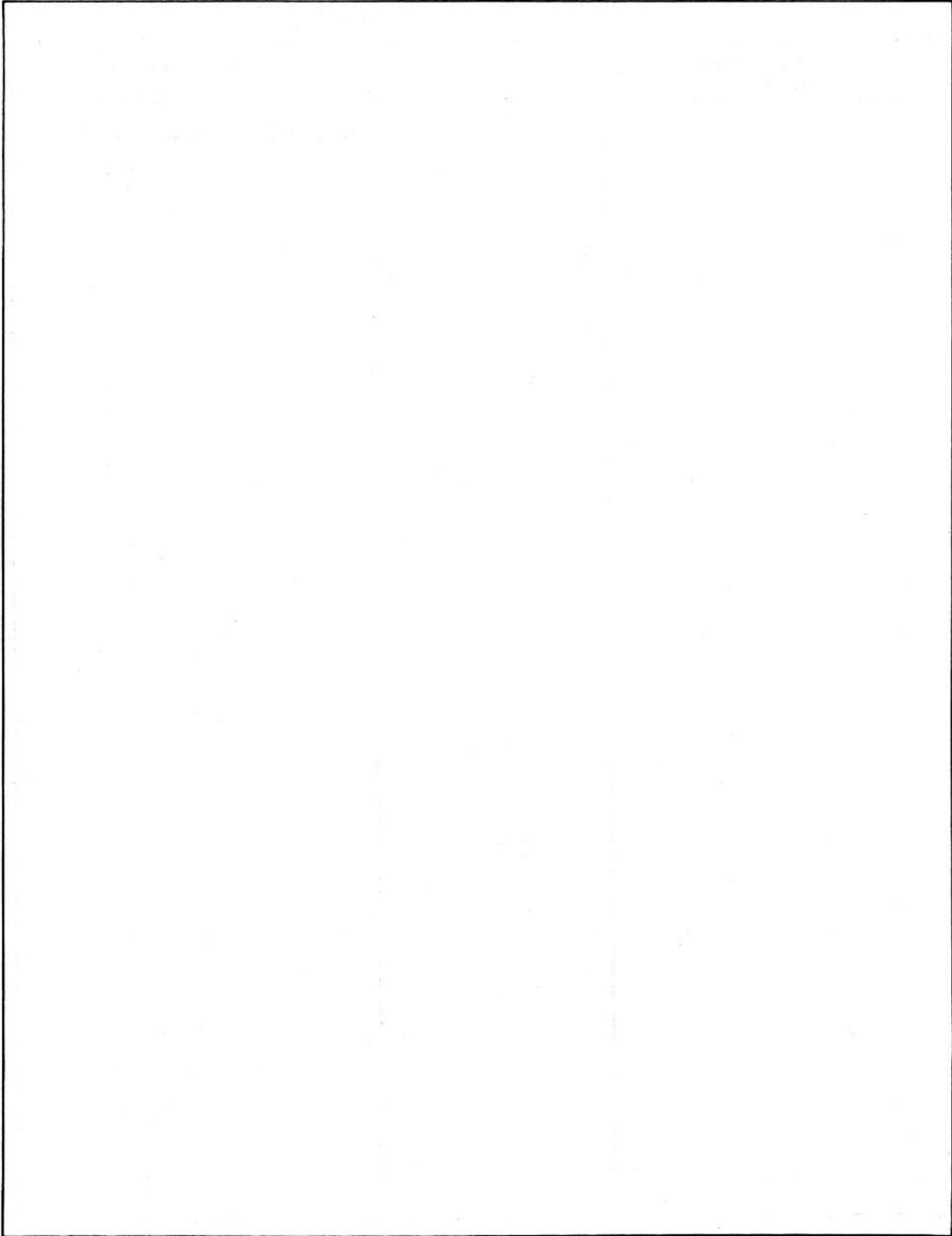
Radio Interference Measuring Set AN/PRM-1A

EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
		No modifications authorized.

RADIO INTERFERENCE MEASURING SET AN/PRM-1A

Radio Interference Measuring Set AN/PRM-1A

October 1961



RADIO INTERFERENCE MEASURING SET AN/URM-47

October 1961

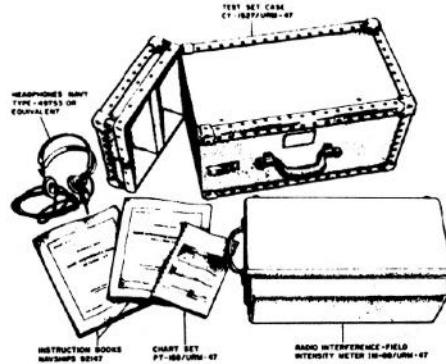
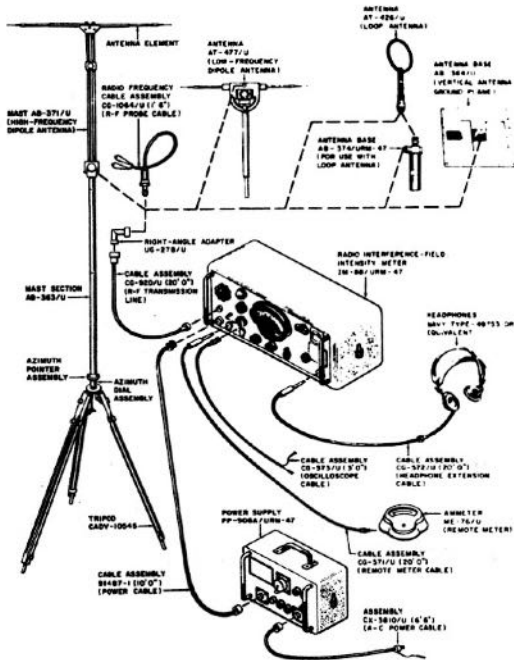
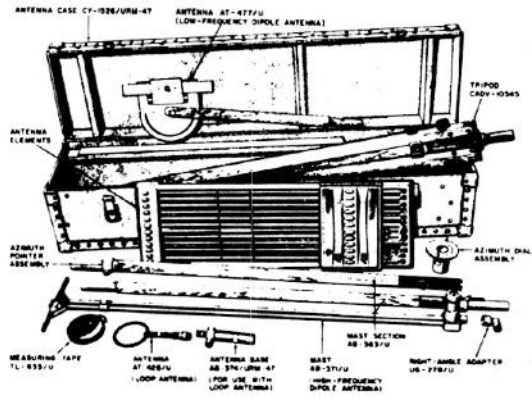
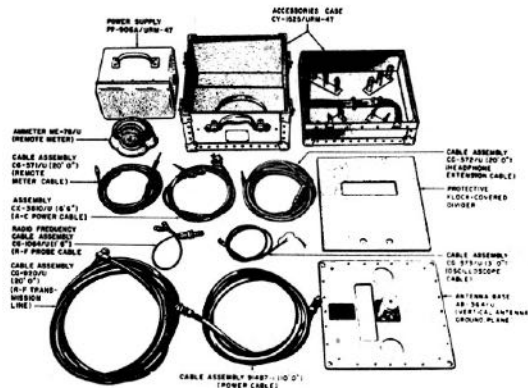
Radio Interference Measuring Set AN/URM-47

GENERAL DATA	MAJOR UNITS
<p>F. S. N: 6625-649-2233                      ID Number: 00126A                      Function: Interference measurement.                      Manufacturer: Stoddart Aircraft Radio Company, Hollywood, Calif.                      Contracts: NObsr 52301                      Approximate price: \$4,000.00                      Recommended operational checkout interval: <u>WEEKLY</u></p>	<p>(1) RF Field Intensity Meter IM-88/URM-47                      (2) Chart Set PT-188/URM-47                      (1) Power Supply PP-906/URM-47                      (1) Ammeter ME-76/U                      (1) Antenna Base AB-364/U                      (1) Mast AB-371/U                      (1) Antenna AT-477/U                      (2) Mast Section AB-363/U                      (1) Tripod CADV-10545                      (1) Antenna AT-426/U                      (1) Antenna Base AB-374/URM-47                      (1) Azimuth Dial Assembly                      (1) Azimuth Pointer Assembly                      (1) Set Antenna Elements</p>
PUBLICATIONS	
<p>D/L Vol II, Radio Interference Measuring Set AN/URM-47, Jul 59.                      NAVSHIPS 92147, Radio Interference Measuring Set AN/URM-47, Feb 54.</p>	<p>SIG M8, Radio Interference Measuring Set AN/URM-47, Oct 54 and Ch 1 Jun 55.</p>

# RADIO INTERFERENCE MEASURING SET AN/URM-47

Radio Interference Measuring Set AN/URM-47

October 1961



Radio Interference Measuring Set AN/URM-47.

# RADIO INTERFERENCE MEASURING SET AN/URM-47

October 1961

Radio Interference Measuring Set AN/URM-47

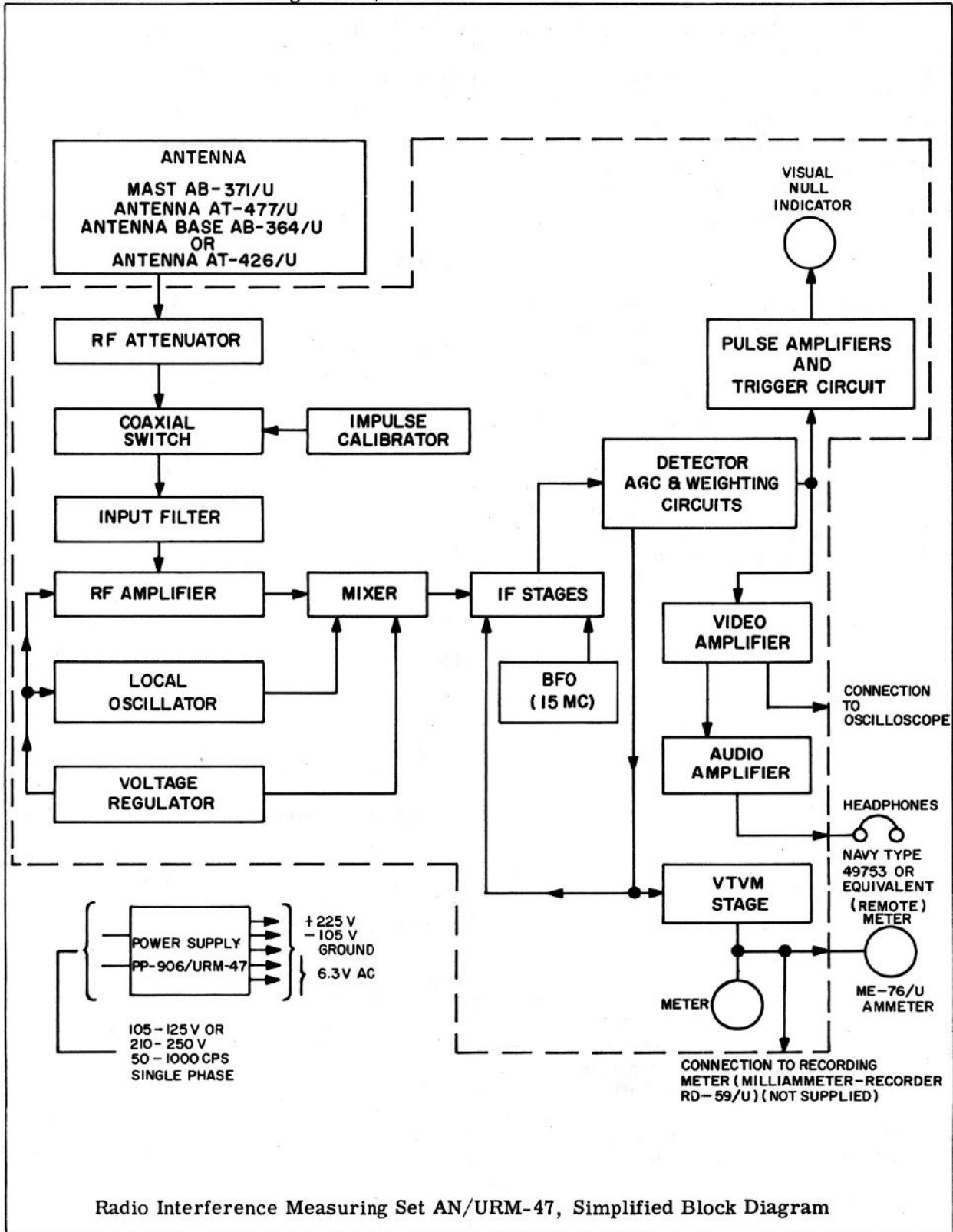
OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS																																																																		
<p>Use: Radio Interference Measuring Set AN/URM-47 is a highly sensitive HF and VHF superheterodyne receiver for use in the locating and intensity measurements of RF interference which may be generated by gasoline engines, generators, motors, or electronic equipment.</p> <p>This equipment can be used for measurement of forward-gain or backward-attenuation in the adjustment of directive antennas or arrays, and for the plotting of antenna radiation patterns.</p> <p>Used with: It can be used as a null instrument in conjunction with RF bridges and slotted lines suitable for operation in the 20- to 400-megacycle frequency range.</p> <p>Installation: Radio Interference Measuring Set AN/URM-47 is suitable for operation aboard naval vessels, at fixed installations, in aircraft, or in military vehicles.</p>	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">Power requirements:</td> <td style="width: 30%;">105 to 125 or 210 to 250 VAC, 50 to 60 or 400 CPS, single phase.</td> <td colspan="2"></td> </tr> <tr> <td>Power consumption:</td> <td>150 watts at 115 VAC, 60 CPS, single-phase.</td> <td colspan="2"></td> </tr> <tr> <td>Receiver type:</td> <td>Superheterodyne.</td> <td colspan="2"></td> </tr> <tr> <td>Frequency range:</td> <td>20 to 400 MC in 6 bands.</td> <td colspan="2"></td> </tr> <tr> <td>Type of reception:</td> <td>Carrier, modulated carrier, pulse, or radio interference.</td> <td colspan="2"></td> </tr> <tr> <td>Accuracy of measurement:</td> <td><math>\pm 15\%</math> at 10 millivolts.</td> <td colspan="2"></td> </tr> <tr> <td>IF:</td> <td>15 MC.</td> <td colspan="2"></td> </tr> <tr> <td>IF rejection:</td> <td>60 db.</td> <td colspan="2"></td> </tr> <tr> <td>Audio output:</td> <td>100 milliwatts into 600-ohm noninductive load.</td> <td colspan="2"></td> </tr> <tr> <td>Input impedance:</td> <td>50 ohms (coaxial).</td> <td colspan="2"></td> </tr> <tr> <td>Selectivity:</td> <td>138 to 175 KC bandwidth at 6 db.</td> <td colspan="2"></td> </tr> <tr> <td>Sensitivity:</td> <td></td> <td colspan="2"></td> </tr> <tr> <td style="padding-left: 20px;">Radiated Pickup:</td> <td>1 to 60 millivolts per meter.</td> <td colspan="2"></td> </tr> <tr> <td style="padding-left: 20px;">Conducted Pickup:</td> <td>1 millivolt from 20 to 240 MC, 5 millivolts from 240 to 400 MC.</td> <td colspan="2"></td> </tr> <tr> <td>Dynamic range or overload:</td> <td>20 db <math>\pm</math> 2 db at full scale.</td> <td colspan="2"></td> </tr> <tr> <td>Spurious:</td> <td>40 db.</td> <td colspan="2"></td> </tr> </table>			Power requirements:	105 to 125 or 210 to 250 VAC, 50 to 60 or 400 CPS, single phase.			Power consumption:	150 watts at 115 VAC, 60 CPS, single-phase.			Receiver type:	Superheterodyne.			Frequency range:	20 to 400 MC in 6 bands.			Type of reception:	Carrier, modulated carrier, pulse, or radio interference.			Accuracy of measurement:	$\pm 15\%$ at 10 millivolts.			IF:	15 MC.			IF rejection:	60 db.			Audio output:	100 milliwatts into 600-ohm noninductive load.			Input impedance:	50 ohms (coaxial).			Selectivity:	138 to 175 KC bandwidth at 6 db.			Sensitivity:				Radiated Pickup:	1 to 60 millivolts per meter.			Conducted Pickup:	1 millivolt from 20 to 240 MC, 5 millivolts from 240 to 400 MC.			Dynamic range or overload:	20 db $\pm$ 2 db at full scale.			Spurious:	40 db.		
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SIMILAR EQUIPMENTS	PHYSICAL CHARACTERISTICS																																																																		
<p>AN/URM-47A is identical except that it is a highly sensitive HF and UHF receiver.</p> <p>TS-587A/U is very similar except for power output, which is 200 milliwatts.</p>	Unit	Overall Weight (in lbs)	Cubic Feet																																																																
	AN/URM-47	212	13.9 (crated)																																																																



RADIO INTERFERENCE MEASURING SET AN/URM-47

Radio Interference Measuring Set AN/URM-47

October 1961



RADIO INTERFERENCE MEASURING SET AN/URM-47

October 1961

Radio Interference Measuring Set AN/URM-47

MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Alinement and adjustment	Multimeter: 0 to 250 VDC, 0 to 10 VAC.	AN/PSM-4A	TS-352( )/U	NAVSHIPS 92147, Section 7, paragraphs 8a through 8f and paragraphs 9a and 9b.
	Signal generator: 15 to 400 MC.	TS-497( )/U	AN/URM-26( )	
	VTVM: 0 to 36 VDC.	ME-25( )/U	TS-505/U	
	Frequency meter: 15 to 400 MC.	LM-18	AN/URM-32	
Operator's maintenance	No special tools or equipment required.			NAVSHIPS 92147, Section 5.

RADIO INTERFERENCE MEASURING SET AN/URM-47

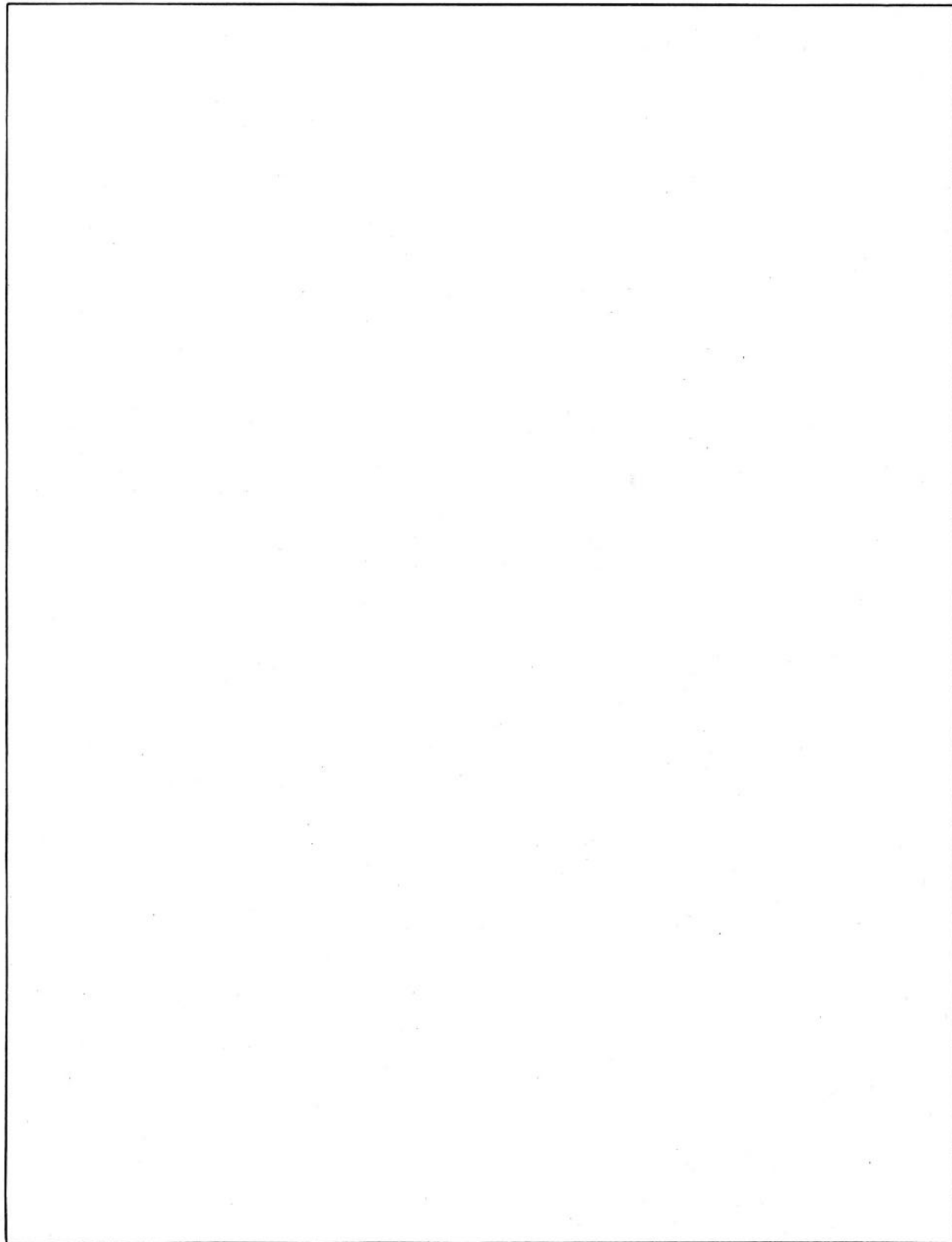
Radio Interference Measuring Set AN/URM-47

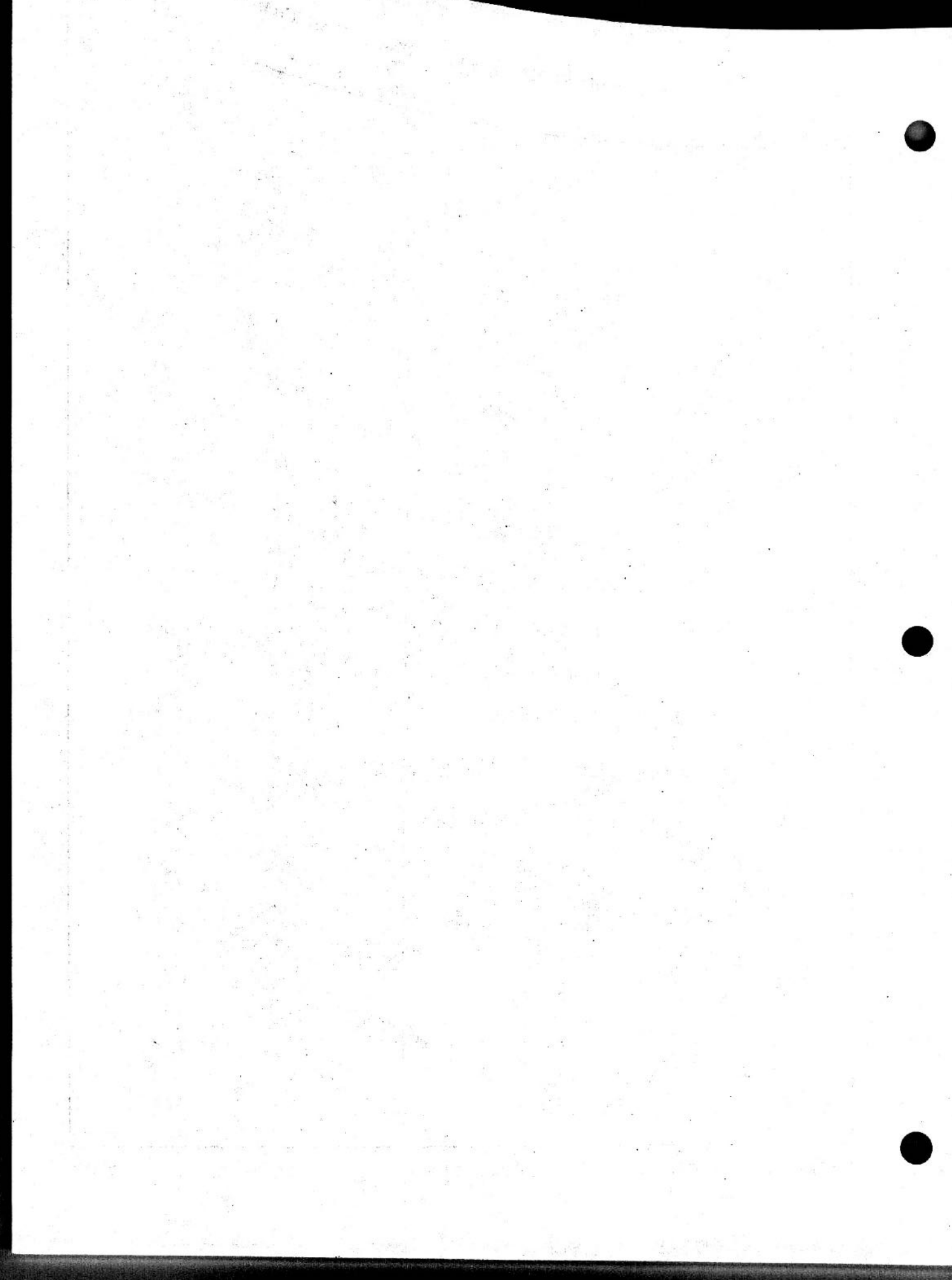
October 1961

EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
		No modifications authorized.

October 1961

Radio Interference Measuring Set AN/URM-47



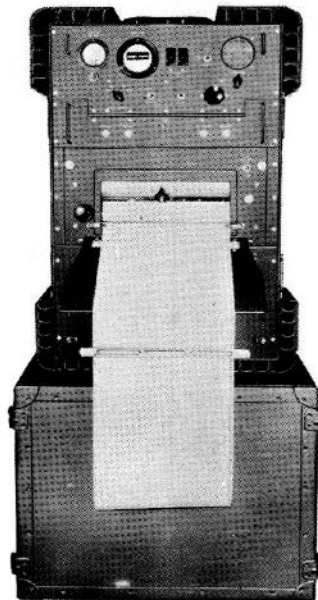


# RADIOSONDE RECORDER AN/TMQ-5A

October 1961

Radiosonde Recorder AN/TMQ-5A

GENERAL DATA	MAJOR UNITS
<p>F. S. N: 6660-393-2234                      ID Number: 00097A                      Function: Records weather information transmitted from balloon-borne radiosonde.                      Manufacturer: Landers, Frary &amp; Clark, New Britain, Conn.                      Contracts: DA 36-039-SC-76544                      Approximate price: \$900.00                      Recommended operational checkout interval: <u>WEEKLY</u></p>	<p>(1) Control Panel C-834( )/TMQ-5                      (1) Signal Data Converter CV-146( )/TMQ-5                      (1) Power Supply PP-968( )/TMQ-5                      (1) Frequency Time Recorder RD-88( )/TMQ-5                      (1) Electrical Equipment Cabinet Subassembly MX-1482( )/TMQ-5                      (1) Electrical Equipment Cabinet CY-1390( )/TMQ-5                      (1) Accessory Case CY-930/TMQ-5</p>

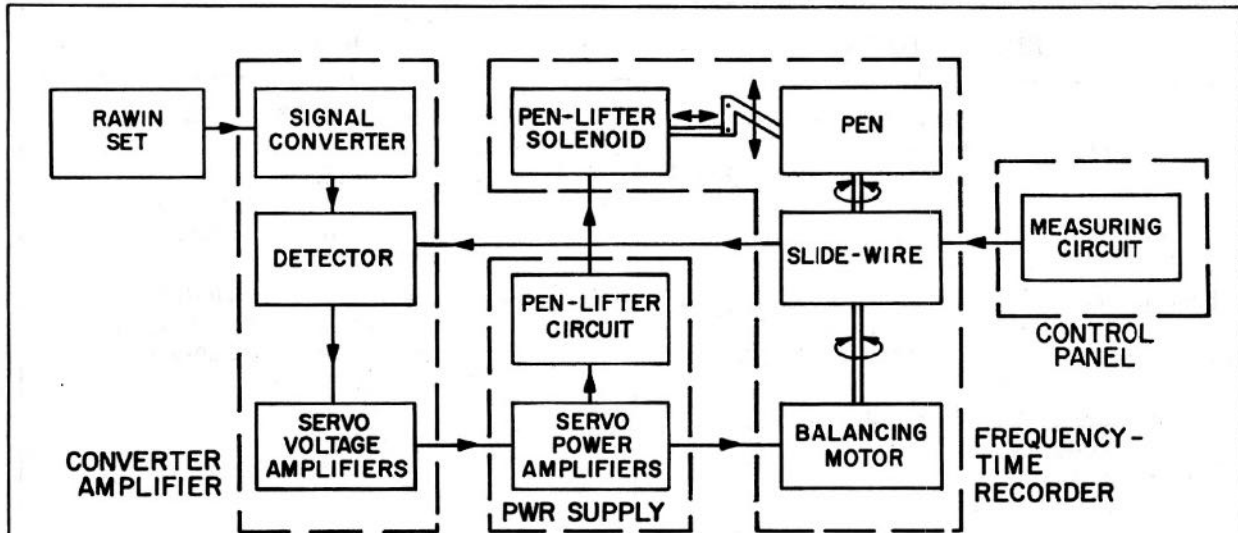


Radiosonde Recorder AN/TMQ-5A.

# RADIOSONDE RECORDER AN/TMQ-5A

Radiosonde Recorder AN/TMQ-5A

October 1961



Radiosonde Recorder AN/TMQ-5A, Simplified Block Diagram.

OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS						
<p>Use: Radiosonde Recorder AN/TMQ-5A records, in printed form, weather information that is transmitted from a balloon-borne radiosonde.</p> <p>Used with: AN/GMD-1( ), SCR-658, R228/FMQ-2, and AN/AMT-4( ).</p> <p>Installation: Mobile/Fixed.</p>	<p>Power requirements: 105-125 VAC, 50-65 CPS, 1 phase, 225-275 watts.</p> <p>Test signal: Sine wave: 10-220 CPS, 10 V peak-to-peak (min).</p> <p>Input signal: Negative-going pulse or sawtooth: 10-220 CPS, 10-100 V peak-to-peak, 1000-2500 usec wide.</p> <p>Power supply: Positive: Self-contained, full-wave, regulated, +300 volts. Negative: Self-contained, full-wave, regulated, -175 volts.</p> <p>Signal data converter output: Nominally 30 millivolts DC for full-scale deflection of pen.</p>						
SIMILAR EQUIPMENTS	PHYSICAL CHARACTERISTICS						
<p>AN/FMQ-1 (Frequency 56-85 MC). AN/TMQ-5 is essentially the same.</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 25%;">Unit</th> <th style="width: 35%;">Overall Weight (in lbs)</th> <th style="width: 40%;">Cubic Feet</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">AN/TMQ-5A</td> <td style="text-align: center;">628 (in 2 packages)</td> <td style="text-align: center;">35 (crated)</td> </tr> </tbody> </table>	Unit	Overall Weight (in lbs)	Cubic Feet	AN/TMQ-5A	628 (in 2 packages)	35 (crated)
Unit	Overall Weight (in lbs)	Cubic Feet					
AN/TMQ-5A	628 (in 2 packages)	35 (crated)					

RADIOSONDE RECORDER AN/TMQ-5A

October 1961

Radiosonde Recorder AN/TMQ-5A

PUBLICATIONS

TM 11-2436, Radiosonde Recorder AN/TMQ-5, AN/TMQ-5A, AN/TMQ-5B, and AN/TMQ-5C, Mar 55.  
TM 11-6660-204-10P, Radiosonde Recorder AN/TMQ-5, AN/TMQ-5A, AN/TMQ-5B, and AN/TMQ-5C, Apr 60.

TM 11-6660-204-20P, Radiosonde Recorder AN/TMQ-5, AN/TMQ-5A, AN/TMQ-5B, and AN/TMQ-5C, Sep 60.  
TM 11-6660-204-35P, Radiosonde Recorder AN/TMQ-5, AN/TMQ-5A, AN/TMQ-5B, and AN/TMQ-5C, Jun 60.



RADIOSONDE RECORDER AN/TMQ-5A

Radiosonde Recorder AN/TMQ-5A

October 1961

MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Organizational maintenance	No special tools or equipment required			TM 11-2436, Chapter 3.
Alignment and adjustment	Multimeter: 0 to 300 VDC	AN/PSM-4A	TS-352()/U	TM 11-2436, paragraphs 87 through 102.
	Voltmeter: 10 to 300 VAC	ME-30()/U	ME-6C/U	
	Oscilloscope	AN/USM-79	AN/USM-24()	
	Frequency calibrator*	TS-65C/FMQ -1		
	*Normally used for fourth or fifth echelon maintenance.			

RADIOSONDE RECORDER AN/TMQ-5A

October 1961

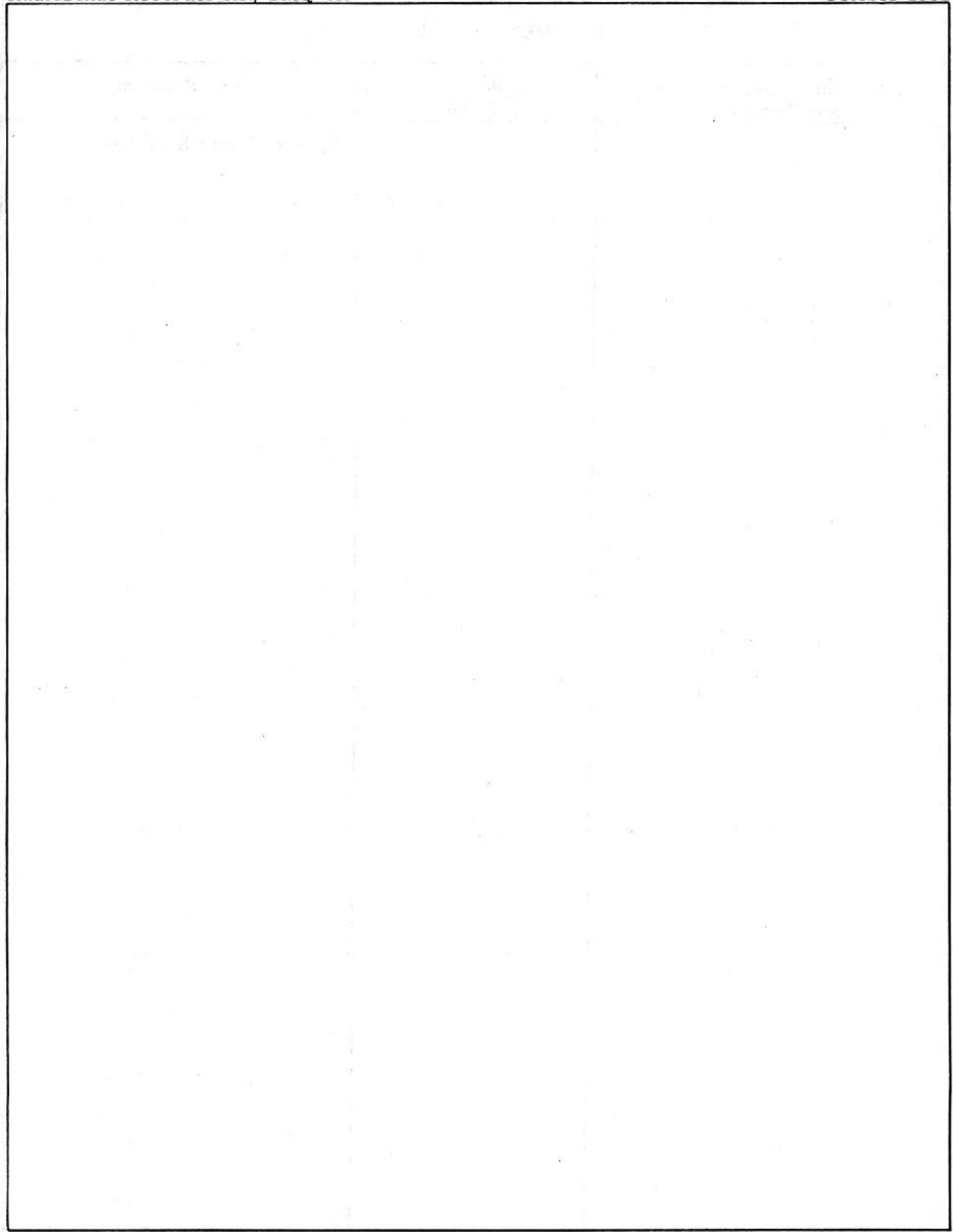
Radiosonde Recorder AN/TMQ-5A

EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
		No modifications authorized.

RADIOSONDE RECORDER AN/TMQ-5A

Radiosonde Recorder AN/TMQ-5A

October 1961

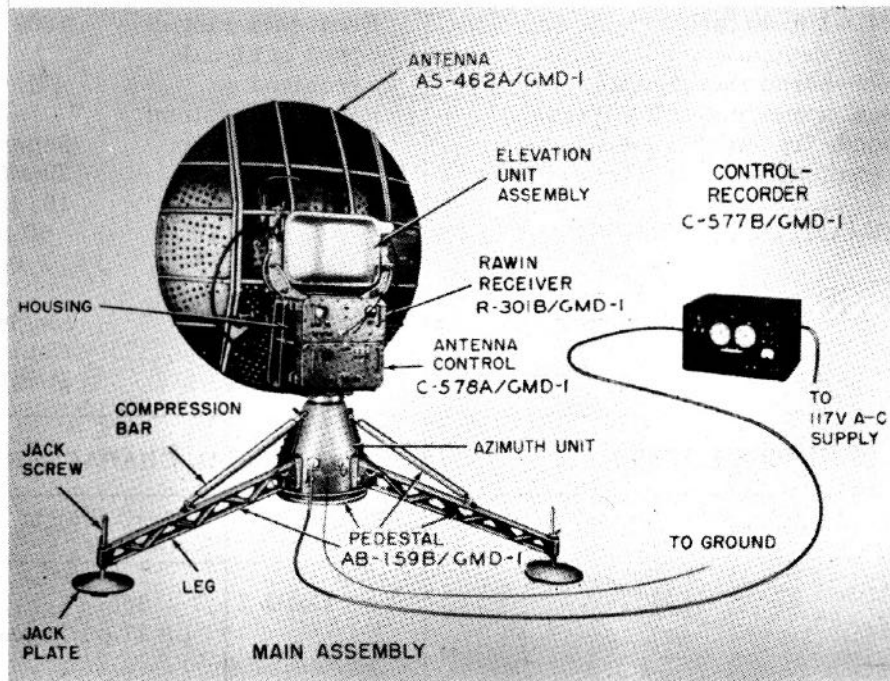


# RAWIN SET AN/GMD-1

October 1961

Rawin Set AN/GMD-1

GENERAL DATA	MAJOR UNITS
<p><b>F. S. N:</b> 6660-503-6137</p> <p><b>ID Number:</b> 00043A</p> <p><b>Function:</b> Radio Direction Finder</p> <p><b>Manufacturer:</b> B. J. Electronics</p> <p><b>Contracts:</b> DA-36-039-SC-76542</p> <p><b>Approximate price:</b> \$24,870</p> <p><b>Recommended operational checkout interval:</b> <u>WEEKLY</u></p>	<p>(1) Antenna AS-462/GMD-1</p> <p>(1) Control Recorder C-577A/GMD-1</p> <p>(1) Rawin Receiver R-301A/GMD-1</p> <p>(1) Antenna Control Unit C-578/GMD-1</p> <p>(1) Azimuth Unit</p> <p>(1) Elevation Unit Assembly</p>

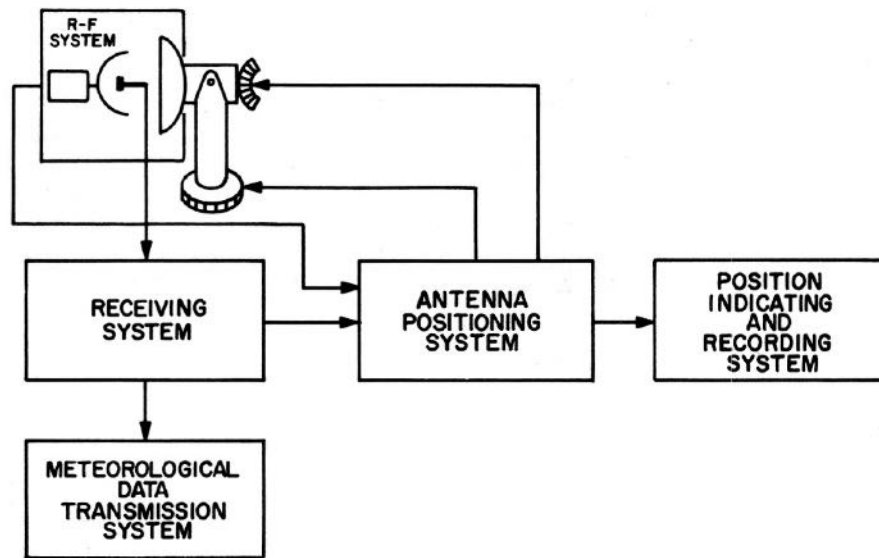


Rawin Set AN/GMD-1.

# RAWIN SET AN/GMD-1

Rawin Set AN/GMD-1

October 1961



Rawin Set AN/GMD-1 Systems, Block Diagram.

OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS	
<p>Use: AN/GMD-1 is a transportable radio direction finder designed to automatically track a balloon-borne radiosonde transmitter. The Rawin Set, a meteorological recorder and a radiosonde transmitter constitute a Rawinsonde equipment.</p> <p>Use with: AN/AMT-4, AN/FMQ-12</p> <p>Installation: Fixed</p>	<p>Frequency range: 1660 to 1700 MC</p> <p>Types of signals received: AM, FM</p> <p>Receiving system:            Type receiver: Superheterodyne            IF frequency: 30 MC            Power input: 105 to 129 VAC, 50 to 65 CPS, 1,000 watts</p> <p>Antenna:            Single dipole            Conical scanning            Parabolic reflector</p>	
SIMILAR EQUIPMENT	PHYSICAL CHARACTERISTICS	
	Unit	Overall Weight (in lbs)
	AN/GMD-1	365.4 (in 11 packages)
		Cubic Feet (crated)
		243

Revised  
April 1962

Rawin Set AN/GMD-1

## PUBLICATIONS

LO 11-271A, Rawin Sets AN/GMD-1,  
1, May 55.

SIG 7-8, Flashlight TL-122, Jan 55.

SIG M8 Sup, Flashlight TL-122, Nov 56.

SIG M8 Sup, Tool Equipment TE-113,

Aug 56, Ch 1, Nov 56, and Ch 2, Aug 58.

TM 11-5014, Test Sets TS-538, A, B, C/U,  
May 57.

TM 11-5500, Multimeter TS-297/U, Jul 55.

TM 11-6625-213-10P, Test Sets TS-538,

A, B, C/U, Dec 59.

TM 11-6625-213-20P, Test Sets TS-538,

A, B, C/U, Mar 60.

TM 11-6625-213-35P, Test Sets TS-538,  
A, B, C/U, Mar 60.

TM 11-6625-321-12P, Multimeter  
TS-297/U, Dec 59.

TM 11-6625-321-35P, Multimeter  
TS-297/U, Dec 59.

TM 11-6660-206-10P, Rawin Sets  
AN/GMD-1, 1A, 1B, Dec 59.

TM 11-6660-206-20P, Rawin Sets  
AN/GMD-1, 1A, 1B, Apr 60.

TM 11-6660-206-35P, Rawin Sets  
AN/GMD-1, 1A, 1B, Apr 60.

TM 11-6660-206-10, Rawin Sets  
AN/GMD-1A, 1B, Feb 61.

RAWIN SET AN/GMD-1

Rawin Set AN/GMD-1

October 1961

MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Receiver system alignment and adjustment	VTVM: Minimum AC Minimum DC	TS-505/C	ME-25( )/U	TM 11-271, paragraphs 194 through 197.
	Signal generator: 15 MC, 30.4 MC	AN/URM-25F	AN/URM-26( ) AN/URM-25D	
	Signal generator: 30 MC, 3 MC deviation	AN/USM-28	AN/USM-16	
	Electronic switch**	TS-433/U	*Dumont type 185-A	
	Test set	TS-538/U		
Antenna positioning system alignment and adjustment	Oscilloscope	OS-8/U	AN/USM-137	TM 11-271, paragraphs 201 through 204.
Organizational maintenance	No special test equipment required			TM 11-271, paragraphs 60 through 74.

\*\* Normally fourth or fifth echelon.

\*Not a T/A item.

October 1961

Rawin Set AN/GMD-1

EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
MCO 2005.5 Sup 2: Modification to eliminate traces on the recording paper of AN/TMQ-5	C-577A, B/GMD-1	Addition of 25 MFD capacitor connected between S-817 and S-818. The new capacitor is mounted directly above S-817.
MCO 2005.5 Sup 3: To provide a convenient means for adjustment of thyratrons in the antenna or control chassis	C-578A/GMD-1	Eight test jacks mounted below connectors J-604 and J-601.
MCO 2005.5 Sup 4: To provide for simultaneous starting of printing by C-577A and radio-sonde recorder	C-577A/GMD-1	New recorder control switch installed in location occupied by AUTO PRINT switch. New name plate reads RECORDS CONTROL.
MCO 2005.5 Sup 5: Improved printing mechanism and the reversal of the rotation of the elevation indication	C-577A, B/GMD-1	New elevation dial indicates elevation in degrees and tenth of a degree.
MCO 2005.5 Sup 5, Ch 1: Pen and ink change to Supplement 5	AN/GMD-1	Change FSN 5905-114-2068, paragraph 7a to read 6680-511-4464.
MCO 2005.5 Sup 6: Correct mechanical deficiencies in the antenna scanning mechanism	AS-462A, B/GMD-1	Addition of belt drive to antenna scanner assembly.
MCO 2005.5 Sup 7: Filtering of AVC voltage in R-301B	R-301B/GMD-1A	Addition of new capacitors C1001B and C1002B, connected across existing capacitors C1001 and C1002.
MCO 2005.5 Sup 8: Additional filtering of AVC voltage	R-301A/GMD-1	Addition of new filter board located below C-536. Deletes capacitor C-461.
MCO 2005.5 Sup 9: Eliminate excessive moisture in the pedestal	AB-159, A, B, C/GMD-1	Addition of a lamp heater mounted on inside of cover plate assembly.



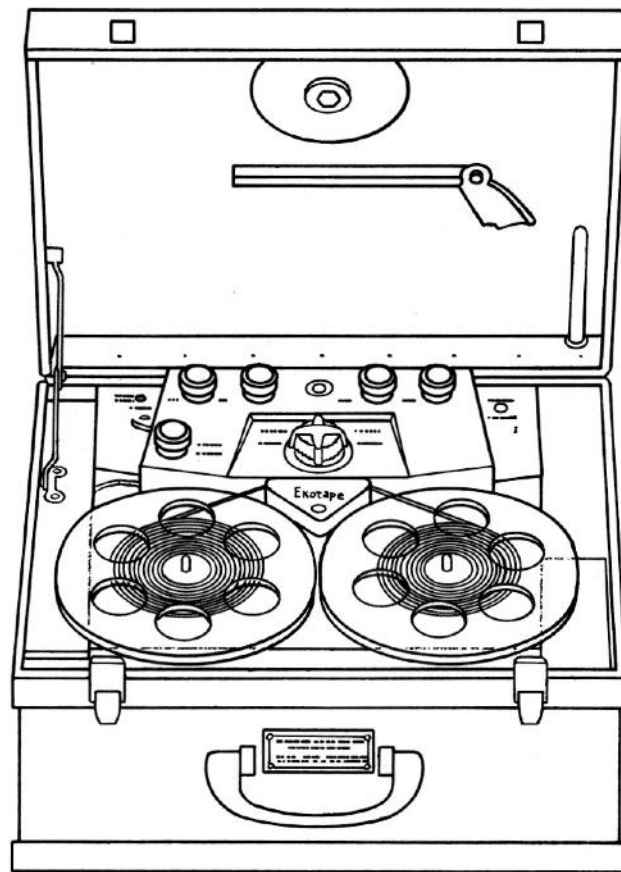


SOUND RECORDER REPRODUCER SET AN/TNH-7

October 1961

Sound Recorder Reproducer Set AN/TNH-7

GENERAL DATA	MAJOR UNITS
<p>F. S. N: 5835-629-8251                      ID Number: 01259A                      Function: Records sound on magnetic tape.                      Manufacturer: Webster Electric Racine, Wisconsin                      Contracts: N67024-782                      Approximate price: \$372.00                      Recommended operational checkout interval: <u>WEEKLY</u></p>	<p>(1) Recorder Reproducer RD-135/UNH-3                      (1) Microphone with desk stand and cable assembly                      (1) 7-inch plastic reel                      (1) Tape splicer                      (3) Rolls of splicing tape                      (1) Allen wrench</p>



Sound Recorder Reproducer Set AN/TNH-7.

**SOUND RECORDER REPRODUCER SET AN/TNH-7**

Sound Recorder Reproducer Set AN/TNH-7

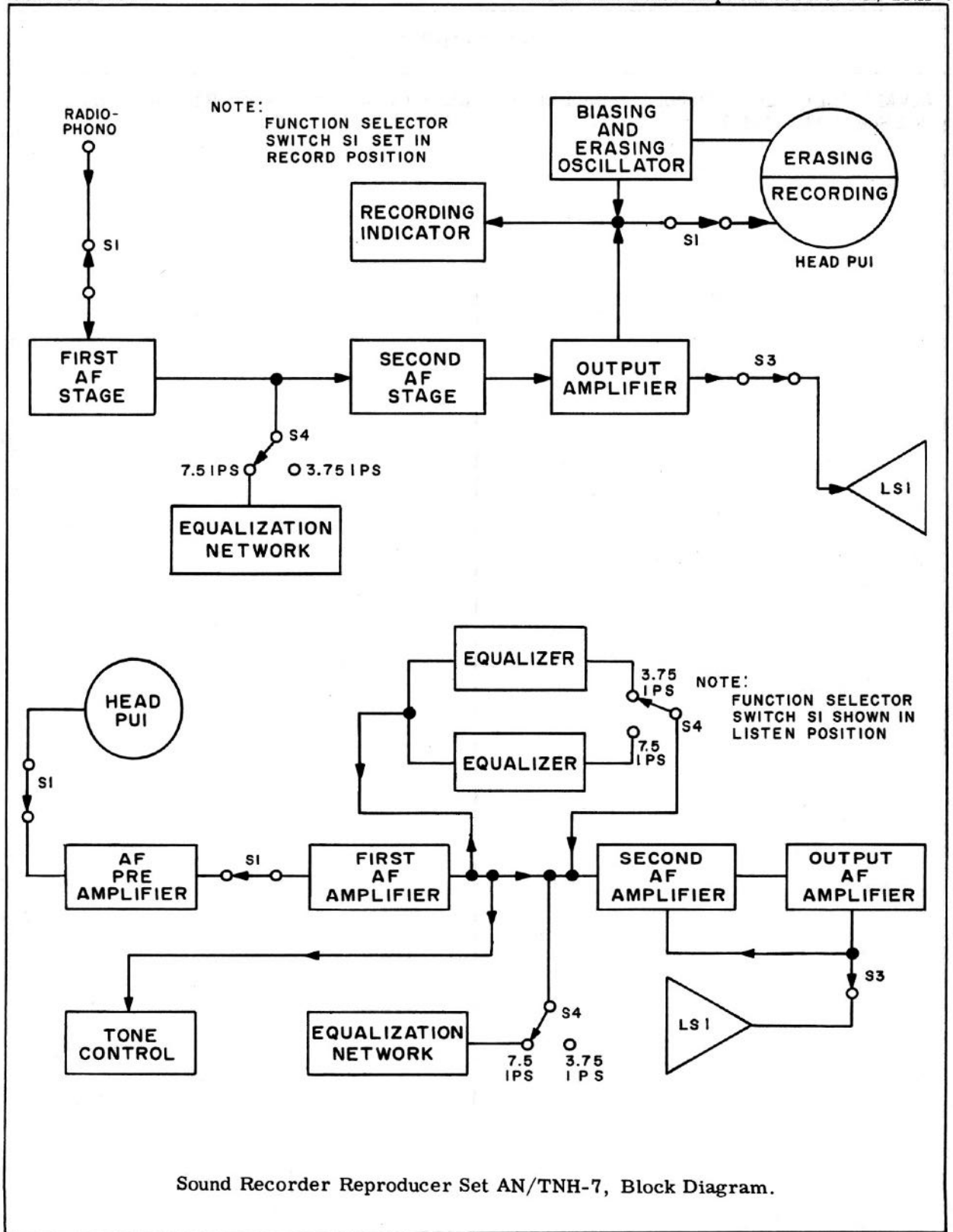
October 1961

OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS		
<p>Use: Sound Recorder Reproducer Set AN/TNH-7 is a transportable, dual-speed, dual-track, magnetic tape, recording equipment. The unit is used to record sound information on a magnetic tape which may be edited for programming purposes.</p> <p>Used with:</p> <p>Installation: Portable.</p>	<p>Impedance:</p> <p>  Output: 3.2 ohms.</p> <p>  Input: 250,000 ohms.</p> <p>Power requirements:</p> <p>  Voltage: 110-120 VAC.</p> <p>  Frequency: 60 CPS.</p> <p>  Current: 1.2 amps.</p> <p>  Connection: Single phase.</p> <p>  Power: 105 watts.</p> <p>Speed:</p> <p>  Forward: 3-3/4 or 7-1/2 in/sec.</p> <p>  Fast forward: 37-1/2 or 75 in/sec.</p> <p>  Rewind: 100 in/sec.</p> <p>Amplifier frequency response:</p> <p>  3-3/4 in/sec: 50 to 5000 CPS.</p> <p>  7-1/2 in/sec: 50 to 8000 CPS.</p> <p>Power output:</p> <p>  Amplifier: 2-1/2 watts, 5% distortion at 400 CPS.</p>		
	SIMILAR EQUIPMENTS	PHYSICAL CHARACTERISTICS	
<p>Sound Recorder Reproducer Sets AN/TNH-1, AN/TNH-2B, AN/UNH-3, and 300-C.</p>	Unit	Overall Weight (in lbs)	Cubic Feet
	AN/TNH-7	62	3 (crated)

SOUND RECORDER REPRODUCER SET AN/TNH-7

October 1961

Sound Recorder Reproducer Set AN/TNH-7



SOUND RECORDER REPRODUCER SET AN/TNH-7

Sound Recorder Reproducer Set AN/TNH-7

October 1961

PUBLICATIONS

NAVMC ELECT 2007, Recorder-Reprod  
Set Sound AN/TNH-7.

SL-4-01259A, Recorder-Reprod Set Sound  
AN/TNH-7, Feb 60.

SOUND RECORDER REPRODUCER SET AN/TNH-7

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Sound Recorder Reproducer Set AN/TNH-7

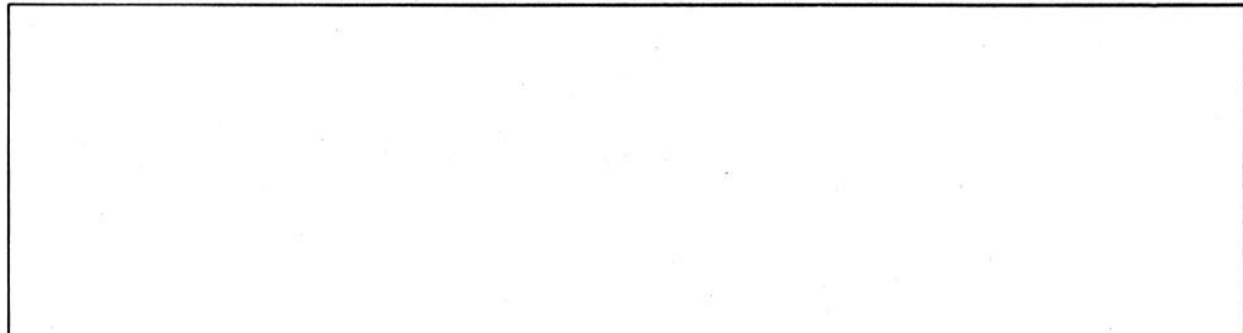
MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Operator's maintenance	No special tools or equipment required			NAVMC ELECT 2007, paragraph 2-18.
Corrective maintenance	Multimeter: 5 to 275 VAC and 0 to 240 VDC	AN/PSM-4A	TS-352( )/U	NAVMC ELECT 2007, paragraphs 4-1 through 4-76.

EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
		No modifications authorized.

SOUND RECORDER REPRODUCER SET AN/TNH-7

Sound Recorder Reproducer Set AN/TNH-7

October 1961





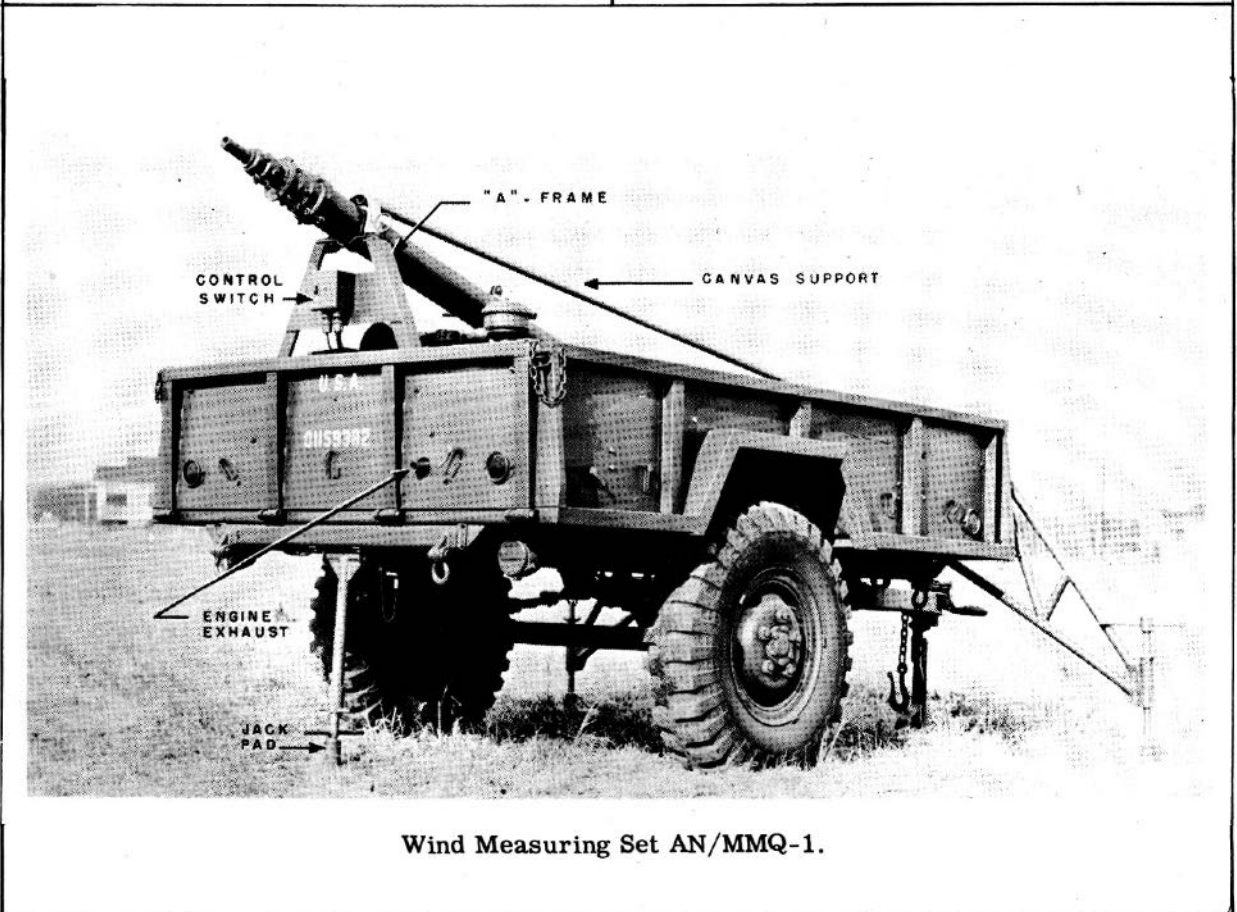


# WIND MEASURING SET AN/MMQ-1

October 1961

Wind Measuring Set AN/MMQ-1

GENERAL DATA	MAJOR UNITS
<p>F. S. N: 6660-663-8085                      ID Number: 00057A                      Function: Measures wind velocity                      Manufacturer: Bendix-Freize,                      Baltimore, Md.                      Contracts: 29073-858                      MIPR R58-2400                      Approximate price: \$4,000.00                      Recommended operational checkout interval: <u>BI-WEEKLY</u></p>	<ul style="list-style-type: none"> <li>(1) Guying equipment case</li> <li>(1) Azimuth and Elevation Correction Data Indicator ID-415A/MMQ-1</li> <li>(1) Wind Speed Indicator ID-624 ( )/GM</li> <li>(1) Barometer ML-102-( )</li> <li>(1) Wind Speed Transmitter T-610/MMQ-1 ( )</li> <li>(1) Storage case (tool box)</li> <li>(1) Mast AB-328 ( )/M</li> <li>(1) Mast AB-329 ( )/G</li> <li>(1) Power Unit PE-75 ( )</li> <li>(1) Trailer M101</li> </ul>

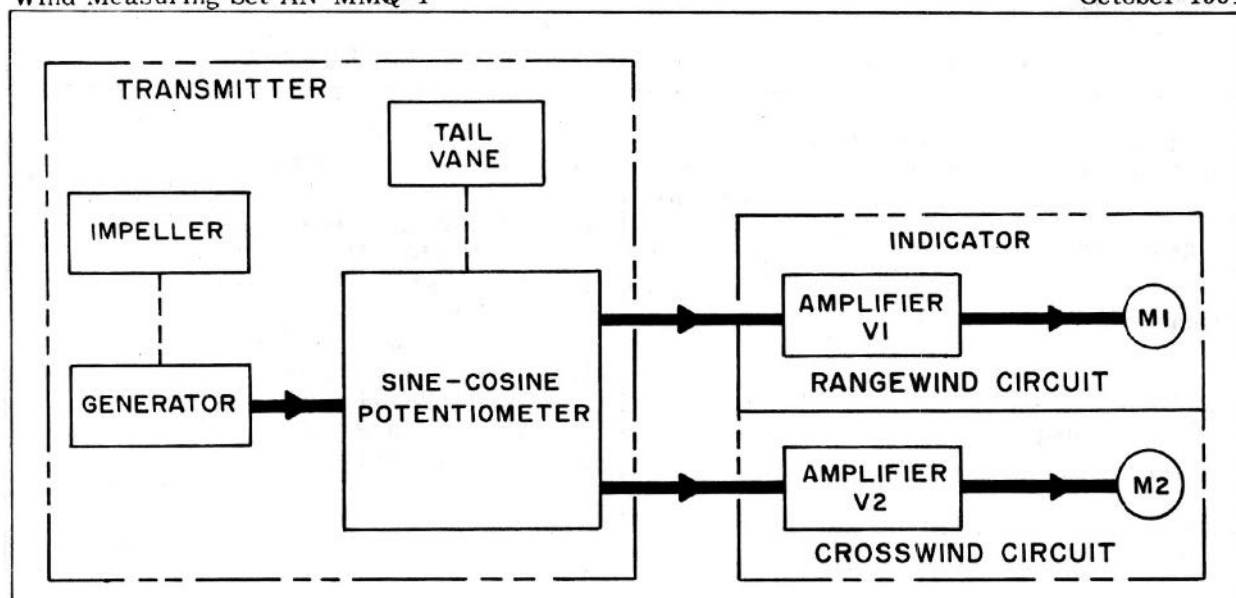


Wind Measuring Set AN/MMQ-1.

# WIND MEASURING SET AN MMQ-1

Wind Measuring Set AN MMQ-1

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Wind Measuring Set AN/MMQ-1 Block Diagram.

OPERATIONAL CHARACTERISTICS	TECHNICAL CHARACTERISTICS		
<p><b>Use:</b> Provides crosswind and rangewind readings from 0-50 mph and is used to correct trajectory data pertaining to azimuth (crosswind) and elevation (range-wind).</p> <p><b>Used with:</b></p> <p><b>Installation:</b> Portable trailer-mounted.</p>	<p><b>Voltage requirement:</b>                      AC operation: 115 V, 60 CPS.                      DC operation: 24 V.</p> <p><b>Wind vane rotation:</b> 0° to 360°.</p> <p><b>Crosswind (mph):</b>                      Outer scale: 50-0-50.                      Inner scale: 25-0-25.</p> <p><b>Rangewind (mph):</b>                      Outer scale: 50-0-50.                      Inner scale: 25-0-50.</p> <p><b>Voltage requirements.</b> One 22.5 V battery.                      Six 1.5 V batteries.                      Two 13.5 V batteries.</p>		
SIMILAR EQUIPMENTS	PHYSICAL CHARACTERISTICS		
<p>Wind Measuring Sets AN/PMQ-6, AN MMQ-1A, and AN/MMQ-1B.</p>	Unit	Overall Weight (in lbs)	Cubic Feet
	AN/MMQ-1	3590 (mounted in trailer)	520

Revised  
April 1962

Wind Measuring Set AN/MMQ-1

PUBLICATIONS

<p>D L T A No. 8403, Trailer Cargo 3/4 Ton 2 Whl M101, Feb 54. LO 9-874A, Trailer Cargo 3/4 Ton 2 Whl M101, Apr 53. LO 11-U10, Axle, RL-27, RL-27-C and RL-27-D, May 55. SIG M8 SUPP, Axle RL-27, Aug 56. SL-3-00376A, Axle RL-27B, Sep 60. SL-3-00380A, Tool Kit TE-33, Mar 61. SM 11-4-5180-512, Tool Equipment TE-33, Mar 60. SNL G-748 ORD 7-8, Trailer Cargo 3/4 Ton 2 Wheel, Aug 56. SNL G-748 ORD 9, Trailer Cargo 3/4 Ton 2 Wheel, Apr 52. TM 9-874A, 3/4 Ton, 2-Wheel Cargo Trailer M101, Apr 52. TM 9-1870-1, Care and Maint of Pneumatic Tires, Feb 55, and Ch 1. TM 11-900, Power Units PE-75 Series, Sep 45. TM 11-6115-206-10P, Power Units PE-75 Series, Jul 59.</p>	<p>TM 11-6115-206-20P, Power Units PE-75 Series, Jul 59. TM 11-6115-206-35P, Power Units PE-75 Series, Jul 59. TM 11-6660-203-10, Wind Measuring Sets AN/MMQ-1, Dec 59. TM 11-6660-203-20, Wind Measuring Sets AN/MMQ-1, Apr 60. TM 11-6660-203-20P, Wind Measuring Sets AN/MMQ-1, AN/MMQ-1A, AN/MMQ-1B, Jul 60. TM 11-6660-203-35, Wind Measuring Sets AN/MMQ-1, Jun 60. TM 11-6660-203-35P, Wind Measuring Sets AN/MMQ-1, AN/MMQ-1A, and AN/MMQ-1B, Jul 60. TM 11-6660-205-15P, Anemometers ML-433/PM, ML-433A/PM, Apr 59. SNL G-748 ORD 7-8, Trailer Cargo 3/4 Ton 2 wheel, Apr 60 Ch 1. SL-3-00380A, Tool Kit TE-33, Nov 61.</p>
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WIND MEASURING SET AN MMQ-1

Wind Measuring Set AN MMQ-1

October 1961

MAINTENANCE DATA				
Test	Test Equipment Requirement	Recommended Test Equipment		Instructions
		Preferred	Alternate	
Organizational maintenance	No special tools or equipment required.			TM 11-6660-203-20, Chapter 1, Section 1.
Adjustments	Multimeter: 10.8 VDC	AN/URM-105	AN/PSM-4A	TM 11-6660-203-35, Chapter 3, paragraphs 27 through 32.
	VTVM	TS-505/U	ME-25 ( )/U	
	Variac: 110 volts, 60 CPS	CN-16/U	NT302778	
	Ohmmeter: 0-3000 ohms	AN/PSM-4A	TS-352 ( )/U	
Final testing	Variac: 110 volts, 60 CPS	CN-16/U	NT-302778	TM 11-6660-203-35, Chapter 4, paragraphs 33 through 39.
	Frequency meter: 24 KC	FR-67/U	AN/USM-122	
	Electronic tachometer: 24 KC	TS-806/U		
	Protractor	Corps of Engineers No 18-5799. 100.500		
	Multimeter: 0 to 1.490 VDC	AN/URM-105	AN/PSM-4A	

WIND MEASURING SET AN MMQ-1

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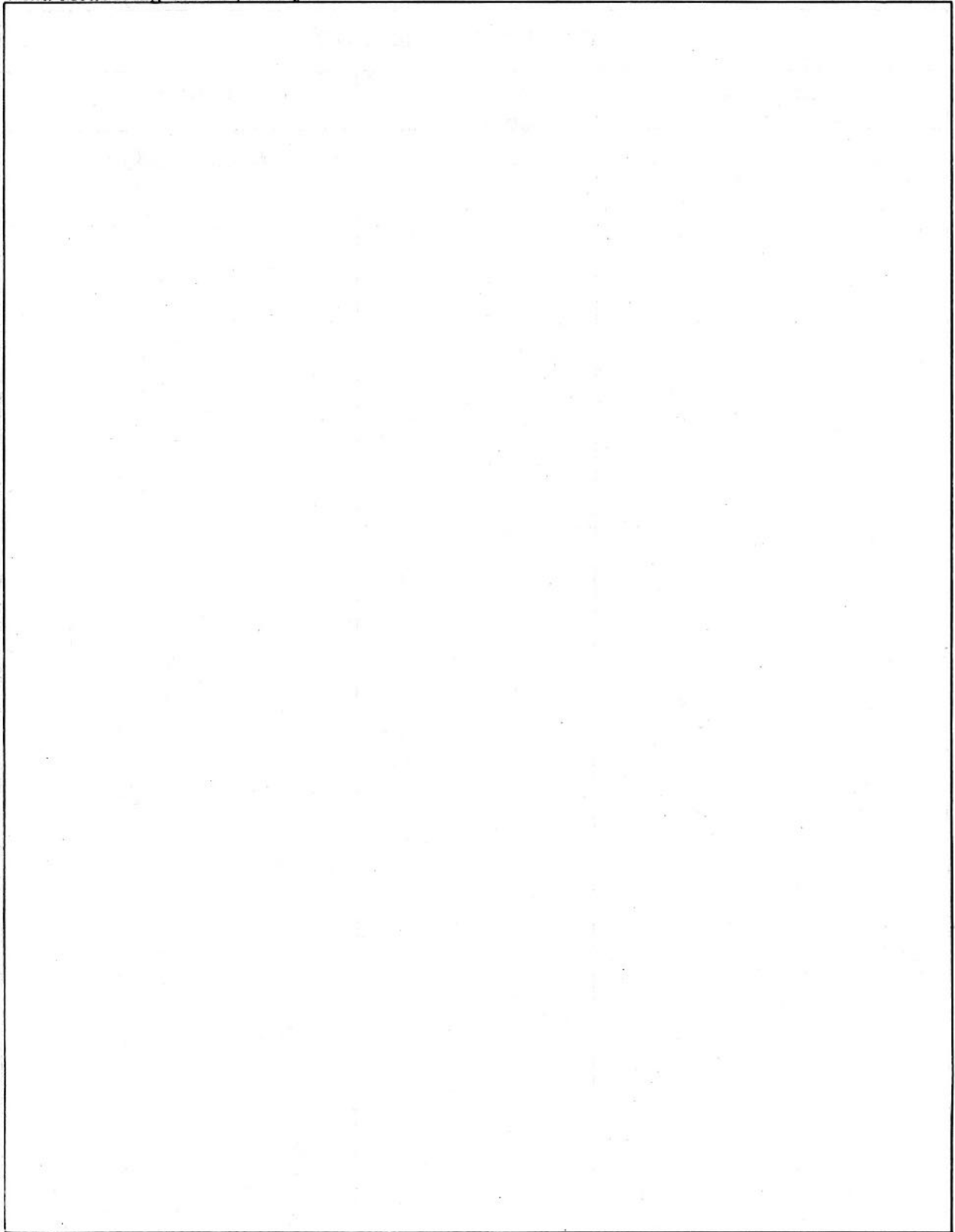
Wind Measuring Set AN MMQ-1

EQUIPMENT MODIFICATIONS		
Authorization and Purpose	Equipments Affected	Identification
		No modifications authorized.

WIND MEASURING SET AN/MMQ-1

Wind Measuring Set AN/MMQ-1

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MASTER MAINTENANCE REFERENCE MANUAL

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Appendix

TABLE 1: INTERCHANGEABLE MAJOR COMPONENTS	
MAJOR COMPONENT	EQUIPMENT USED IN
AB-24/GR Antenna Element	AN/MRC-38 Radio Set AN/URC-22 Radio Set
AB-155A/U Mast Section	AN/GRC-48 Radio Set AN/MRC-40 Radio Set AN/MRC-47 Radio Set
AM-65/GRC Amplifier	AN/GRC-3 Radio Set AN/GRC-5 Radio Set AN/GRC-7 Radio Set AN/MLQ-16 Electronics Countermeasure Set AN/MRC-36 Radio Set AN/MRC-37 Radio Set AN/MRC-38 Radio Set AN/VRC-22 Radio Set AN/UIC-1 Intercomm Set
AM-230G/TRC-75 Amplifier Assembly	AN/MRC-83 Radio Set AN/MRC-87 Radio Set AN/TRC-75
AN/GRA-6 Radio Set Control	AN/GRC-3 Radio Set AN/GRC-5 Radio Set AN/GRC-7 Radio Set AN/MRC-36 Radio Set AN/MRC-37 Radio Set AN/MRC-38 Radio Set AN/MRC-87 Radio Set AN/URC-22 Radio Set AN/VRC-18 Radio Set
AN/GRA-11 Radio Set Control	AN/MRC-35 Radio Set AN/MRC-47 Radio Set



MASTER MAINTENANCE REFERENCE MANUAL

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TABLE 1: INTERCHANGEABLE MAJOR COMPONENTS (Continued)	
MAJOR COMPONENT	EQUIPMENT USED IN
AN/GRC-10 Radio Set	AN/MRC-62 Radio Terminal Set AN/MRC-63 Radio Repeater Set
AN/GSA-6 Chest Set	AN/MRC-36 Radio Set AN/MRC-37 Radio Set AN/MRC-38 Radio Set
AS-390/SRC Antenna	AN/GRC-48 Radio Set AN/MRC-35 Radio Set AN/MRC-40 Radio Set AN/MRC-47 Radio Set AN/MRC-87 Radio Set
AT-271/PRC Antenna	AN/PRC-8 Radio Set AN/PRC-9 Radio Set AN/PRC-10 Radio Set
AT-272/PRC Antenna	AN/PRC-8 Radio Set AN/PRC-9 Radio Set AN/PRC-10 Radio Set
C-375/VRC Control Box	AN/GRC-3 Radio Set AN/GRC-5 Radio Set AN/GRC-7 Radio Set AN/MLQ-16 Electronic Countermeasure Set AN/MRC-36 Radio Set AN/MRC-37 Radio Set AN/MRC-38 Radio Set AN/VRC-8 Radio Set AN/URC-22 Radio Set AN/URC-20, -21 Radio Set AN/UIC-1 Intercommunication Set
C-435/GRC Radio Set Control	AN/GRC-3 Radio Set AN/GRC-5 Radio Set AN/GRC-7 Radio Set

MASTER MAINTENANCE REFERENCE MANUAL

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Appendix

TABLE 1: INTERCHANGEABLE MAJOR COMPONENTS (Continued)

MAJOR COMPONENT	EQUIPMENT USED IN
C-435/GRC Radio Set Control (cont.)	AN/MRC-36 Radio Set AN/MRC-37 Radio Set AN/MRC-38 Radio Set AN/VRC-8 Radio Set AN/URC-20, -21, -22 Radio Sets
C-1335/TRC-32 Control Unit	AN/GRC-48 Radio Set AN/MRC-40 Radio Set AN/MRC-47 Radio Set
C-1336/TRC-32 Control Unit	AN/GRC-48 Radio Set AN/MRC-40 Radio Set AN/MRC-47 Radio Set
C-2848/TRC-75 Antenna Coupler Control	AN/MRC-83 Radio Set AN/MRC-87 Radio Set AN/TRC-75 Radio Set AN/TSC-15 Radio Communications Central
C-3141/TRC-75 Radio Set Control	AN/MRC-83 Radio Set AN/MRC-87 Radio Set AN/TSC-15 Radio Communications Central AN/TRC-75 Radio Set
CU-749/TRC-75 Antenna Coupler	AN/MRC-83 Radio Set AN/MRC-87 Radio Set AN/TSC-15 Radio Communications Central AN/TRC-75 Radio Set
CU-786/TRC-75 Converter Oscillator	AN/MRC-83 Radio Set AN/MRC-87 Radio Set AN/TRC-75 Radio Set

TABLE 1: INTERCHANGEABLE MAJOR COMPONENTS (Continued)

MAJOR COMPONENT	EQUIPMENT USED IN
H-33E/PT Handset	AN/GRA-6 Radio Set Control AN/MRC-83 Radio Set AN/MRC-87 Radio Set AN/PRC-6 Radio Set AN/PRC-8 Radio Set AN/PRC-9 Radio Set AN/PRC-10 Radio Set AN/TSA-16 Control Console
H-63E/U Headset-Mike	AN/MRC-36 Radio Set AN/MRC-37 Radio Set AN/MRC-38 Radio Set
LS-166/U Loudspeaker	AN/MRC-36 Radio Set AN/MRC-37 Radio Set AN/MRC-38 Radio Set AN/MRC-62 Radio Terminal Set AN/MRC-63 Radio Repeater Set AN/MRC-83 Radio Set AN/MRC-87 Radio Set AN/MRD-15 Direction Finder Set
MD-129A/GR Modulator Power Supply	AN/GRC-48 Radio Set AN/MRC-40 Radio Set AN/MRC-47 Radio Set
MK-539/UG AC Power Supply Kit	AN/TGC-14V Teletypewriter Set AN/TSC-15 Radio Communications Central
MS-116 Antenna Section	AN/GRC-9Z Radio Set AN/MRC-36 Radio Set AN/MRC-37 Radio Set AN/MRD-15 Direction Finder Set AN/VRC-8 Radio Set AN/VRC-20, -21 Radio Set

**MASTER MAINTENANCE REFERENCE MANUAL**

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Appendix

**TABLE 1: INTERCHANGEABLE MAJOR COMPONENTS (Continued)**

MAJOR COMPONENT	EQUIPMENT USED IN
MS-117 Antenna Section	AN/GRC-9Z Radio Set AN/MRC-36 Radio Set AN/MRC-37 Radio Set AN/MRC-38 Radio Set AN/MRD-15 Direction Finder Set AN/URC-20, -21, -22 Radio Sets AN/VRC-8 Radio Set
MS-118 Antenna Section	AN/GRC-9Z Radio Set AN/MRC-36 Radio Set AN/MRC-37 Radio Set AN/MRD-15 Direction Finder Set AN/VRC-8 Radio Set AN/URC-20 Radio Set AN/URC-21 Radio Set AN/URC-22 Radio Set
MT-297/GR Mounting	AN/GRC-3 Radio Set AN/GRC-5 Radio Set AN/GRC-7 Radio Set AN/MRC-36 Radio Set AN/MRC-37 Radio Set AN/MRC-38 Radio Set
MT-299/GR Mounting	AN/VRC-8 Radio Set AN/VRC-20, -21, -22 Radio Sets
OA-249/GRC-10 Antenna Group	AN/MRC-62 Radio Terminal Set AN/MRC-63 Radio Repeater Set
OA-1378/GRC Antenna Group	AN/MRC-60 Radio Set AN/TRC-27 Radio Set
PD-83/U AC Motor	AN/TGC-14V Teletypewriter Set AN/TSC-15 Radio Communications Central

TABLE 1: INTERCHANGEABLE MAJOR COMPONENTS (Continued)

MAJOR COMPONENT	EQUIPMENT USED IN
PE-75 Power Supply	AN/MRC-40 Radio Set AN/MRC-62 Radio Terminal Set AN/MRC-63 Radio Repeater Set MTC-2 Office Manual Telephone Switchboard AN/MMQ-1 Wind Measuring Set
PP-112/GRC Power Supply	AN/GRC-3 Radio Set AN/GRC-5 Radio Set AN/GRC-7 Radio Set AN MRC-36 Radio Set AN MRC-37 Radio Set AN MRC-38 Radio Set AN URC-22 Radio Set AN VRC-8 Radio Set AN VRC-18 Radio Set AN VRC-20, -21, -22 Radio Sets
PU-239/G Power Unit Diesel	AN/MPS-11A Radar Set AN/TSQ-5 Operations Central AN/TSQ-6 Operations Central
PU-278/TRC-27 Generator Set	AN/MRC-60 Radio Set AN/TRC-27 Radio Set
R-108/GRC Radio Receiver	AN/GRC-3 Radio Set AN/MRC-36 Radio Set
R-109/GRC Radio Receiver	AN/GRC-5 Radio Set AN/MLQ-16 Electronics Countermeasure Set AN/MRC-37 Radio Set
R-110/GRC Radio Receiver	AN/GRC-7 Radio Set AN/MRC-38 Radio Set

MASTER MAINTENANCE REFERENCE MANUAL

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Appendix

TABLE 1: INTERCHANGEABLE MAJOR COMPONENTS (Continued)	
MAJOR COMPONENT	EQUIPMENT USED IN
R-110/GRC Radio Receiver (cont.)	AN/VRC-18 Radio Set AN/VRC-22 Radio Set
R-278B/GR Radio Receiver	AN/GRC-48 Radio Set AN/MRC-40 Radio Set AN/MRC-47 Radio Set
R-388/URR Radio Receiver	AN/MRC-47 Radio Set AN/URR-23A Radio Receiver
R-390/URR Radio Receiver	AN MLQ-16 Electronics Countermeasure Set AN MRD-15 Direction Finder Set
R-761/ARC-58 Radio Receiver	AN MRC-83 Radio Set AN MRC-87 Radio Set AN/TSC-15 Radio Communications Central AN TRC-75 Radio Set
RA-91 Rectifier Power Unit	AN TTC-9 Central Office Manual Telephone MTC-2 Central Office Manual Telephone
RF-111/TRC-75 Relay Assembly Loading Coil	AN MRC-83 Radio Set AN MRC-87 Radio Set AN/TRC-75 Radio Set
RT-66/GRC Receiver/Transmitter	AN/GRC-3 Radio Set AN/MRC-36 Radio Set AN/VRC-20 Radio Set
RT-67/GRC Receiver/Transmitter	AN/GRC-5 Radio Set AN/MLQ-16 Radio Set AN/MRC-37 Radio Set AN/VRC-21 Radio Set AN/VRC-9 Radio Set

MASTER MAINTENANCE REFERENCE MANUAL

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TABLE 1: INTERCHANGEABLE MAJOR COMPONENTS (Continued)

MAJOR COMPONENT	EQUIPMENT USED IN
RT-68/GRC Receiver/Transmitter	AN/GRC-7 Radio Set AN/MRC-38 Radio Set AN/URC-22 Radio Set AN/VRC-18 Radio Set AN/VRC-22 Radio Set
RT-70/GRC Receiver/Transmitter	AN/GRC-3 Radio Set AN/GRC-5 Radio Set AN/GRC-7 Radio Set AN/MRC-36 Radio Set AN MRC-37 Radio Set AN, MRC-38 Radio Set
RT-352/TRC-27 Receiver/Transmitter	AN, MRC-60 Radio Set AN TRC-27 Radio Set
T-217A/GR Radio Transmitter	AN, GRC-48 Radio Set AN, MRC-40 Radio Set AN, MRC-47 Radio Set
T-730/TRC-75 Radio Transmitter	AN/MRC-83 Radio Set AN/MRC-87 Radio Set AN/TRC-75 Radio Set AN/TSC-15 Radio Communications Central
TA-182/U Telegraph - Telephone Signal Converter	AN/MRC-62 Radio Terminal Set AN/TCC-14 Telegraph Terminal Set TA-182/U Telegraph-Telephone Signal Converter
TD-101/TRC-27 Multiplexer	AN/MRC-60 Radio Set AN/TRC-27 Radio Set
TT-297/UG Teletypewriter	AN/TGC-14V Teletypewriter Set AN/TSC-15 Radio Communications Central

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Appendix

TABLE 2: FREQUENCY COVERAGE OF COMMON SIGNAL GENERATORS AND FREQUENCY MEASURING SETS	
Common Signal Generator or Frequency Measuring Set	
AN/USM-122	10 CPS to 100 MC
TS-382 (/)/U	20 CPS to 200 KC
LO-( )	25 CPS to 15 KC
AN/URM-25	10 KC to 50 MC
AN/URM-32	125 KC to 1000 MC
TS-497/URR	2 MC to 400 MC
AN/URM-26	4 MC to 408 MC
TS-452C/U	5 MC to 100 MC
AN/USM-16	10 MC to 440 MC
AN/URM-48	20 MC to 102 MC
TS-186 (/)/U	100 MC to 10,000 MC
AN/URM-64	900 MC to 2100 MC
AN/URM-61	1800 MC to 4000 MC
TS-155C/U	2700 MC to 3400 MC
AN/UPM-9B	5100 MC to 5900 MC
AN/URM-52	3800 MC to 7500 MC



**TABLE 3: AM RADIO SETS VERSUS FREQUENCY AND USING ORGANIZATION**

AM RADIO SETS	USING ORGANIZATION		Infantry	Artillery	Anti-Tank	Pioneers	Recon.	Medical	Motor Trans.	Service	Division Hq.	FSR	Rockets	Missiles	AAA	155 MM	Tanks	Amph. Trac.	Arm. Amph.	MACS	MASS	
AN/GRC-9Z			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
AN/GRC-48																					X	X
AN/MRC-35			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
AN/MRC-40																					X	X
AN/MRC-47																					X	X
AN/MRC-87			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
MAY-1			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

200 KC      1 MC      10 MC      100 MC      400 MC

**Legend:**  
 Transmit and receive frequency range  
 Receive range only  
 X Using organization



April 1962

Appendix

TABLE 5: SINGLE SIDEBAND RADIO SETS VERSUS FREQUENCY AND USING ORGANIZATION	
SINGLE SIDE BAND RADIO SETS	USING ORGANIZATION
AN/MRC-83	Infantry X Artillery X Anti-Tank X Pioneers X Recon. X Medical X Motor Trans. X Service X Div. Hq. X FSR X Rockets X Missiles X AAA X 155 MM X Tanks X Amph. Trac. X Arm. Amph. X MACS X MASS X
AN/MRC-87	Infantry X Artillery X Recon. X Medical X Motor Trans. X Service X Div. Hq. X FSR X Rockets X Missiles X AAA X 155 MM X Tanks X Amph. Trac. X Arm. Amph. X MACS X MASS X
AN/TRC-75	Infantry X Artillery X Recon. X Medical X Motor Trans. X Service X Div. Hq. X FSR X Rockets X Missiles X AAA X 155 MM X Tanks X Amph. Trac. X Arm. Amph. X MACS X MASS X
AN/TSC-15	Infantry X Artillery X Recon. X Medical X Motor Trans. X Service X Div. Hq. X FSR X Rockets X Missiles X AAA X 155 MM X Tanks X Amph. Trac. X Arm. Amph. X MACS X MASS X

400 KC      1 MC      10 MC      100 MC      300 MC

Legend: **█** Transmit and receive frequency  
 X Using organization

TABLE 6: PULSE POSITION MODULATED RADIO SETS VERSUS FREQUENCY AND USING ORGANIZATION	
PULSE POSITION MODULATED RADIO SETS	USING ORGANIZATION
AN/TRC-27	Infantry X Artillery X Anti-Tank Pioneers Recon. Medical Motor Trans. Service Division Hq. X FSR Rockets Missiles X AAA 155 MM X Tanks Amph. Trac. Arm. Amph. MACS MASS
AN/MRC-60	Infantry X Artillery X Anti-Tank Pioneers Recon. Medical Motor Trans. Service Division Hq. X FSR Rockets Missiles X AAA 155 MM Tanks Amph. Trac. Arm. Amph. MACS MASS



Legend: ■ Transmit and receive frequency  
 X Using organization

TEST EQUIPMENT	T/A ITEMS														AN/ITEM 14 TS-585C/U	TS-615/U	TS-679/U	TS-723/U	TS-806/U	874-WM
	AN/GRM-21	AN/PRM-10	AN/PSM-4 or TS-352()/U	AN/UPM-6B	AN/UPM-9B	AN/UPM-15	AN/UPM-99	AN/URM-25( )	AN/URM-26( )	AN/URM-32	AN/URM-43( )	AN/URM-48	AN/URM-52	AN/URM-64						
AM-598			X												X	X				
AN/GGC-3			X																	
AN/GIC-1			X																	
AN/GMD 1								X												
AN/GPA-60( )			X			X		X												
AN/GRA-6			X																	
AN/GRC-3			X					X		X		X			X			X		
AN/GRC-5			X					X		X		X			X			X		
AN/GRC-7			X					X		X		X			X			X		
AN/GRC-9Z			X					X		X										
AN/GRC-48			X					X	X	X	X				X			X		
AN/MLQ-16			X					X		X		X			X			X		
AN/MMQ-1			X																X	
AN/MPS-11A		X	+	+		+			+					+						
AN/MPS 16			+		+	X							X							
AN/MRC-35A			X					X	X	X	X				X					
AN/MRC-36			X					X		X		X			X			X		
AN/MRC-37			X					X		X		X			X			X		
AN/MRC-38			X					X		X		X			X			X		
AN/MRC-40			X					X	X	X	X				X			X		
AN/MRC-47			X					X	X		X				X			X		
AN/MRC-60			X			X						X					X			
AN/MRC-62			+					X		X	X	X					X			
AN/MRC-63			+					X		X	X	X					X			
AN/MRC-83		+	X					X												X
AN/MRC-87	X	X						X	X	X	X									X

\*TS-505( )/U is preferred over the ME-25( )/U.

Legend: X Required item  
+ Part of end-item.

TABLE 7:

TEST EQUIPMENT	T A ITEMS															
	AN GRM-21	AN PSM-4 or TS-352( )/U	AN UPM-6B	AN UPM-15	AN/URM-25( )	AN URM-32	AN/URM-43( )	AN/URM-48	AN/URM-52	AN/URM-64	AN/USM-16	AN/USM-24( )	ID-292	LO-( )	ME-6C/U	ME-30( )/U
AN/MRD-15		X			X											
AN/MTQ-3		X														X
AN/PDR-54																
AN/PIQ-5		X														X
AN/PRC-6		X			X	X		X					X			
AN/PRC-8					X	X	X	X								X
AN/PRC-9					X	X	X	X								X
AN/PRC-10					X	X	X	X								X
AN/PRD-1		X			X	X										
AN/PRM-1A		X			X											
AN/PRS-3( )		X														X
AN/PRS-4						X					X			X		
AN/TCC-14		X														
AN/TGC-6		X														
AN/TGC-14V																
AN/TIP-1A																
AN/TIP-2																
AN/TIQ-2( )		X												X	X	
AN/TMQ-5A		X									X					X
AN/TNH-7		X														
AN/TPS-15		†	†	X					X	X						
AN/TPS-21										X						
AN/TPS-28		X								X						
AN/TPX-17 & 18		X	†	X						X						
AN/TPX-20		X	X							X					X	
AN/TPX-21		X	X	X						X					X	
AN/TPX-28																
AN/TRC-27		X		X				X			X		X			X
AN/TRC-75		†	X		X					X		X				X

\*TS-505( )/U is preferred over the ME-25( )/U.

Legend: X Required item  
† Part of end-item.

TABLE 7: TEST EQUIPMENT

TEST EQUIPMENT	T/A ITEMS															
	AN/PSM-4A or TS-352( )/U	AN/UPM-15	AN/URM-25( )	AN/URM-26( )	AN/URM-32	AN/URM-43( )	AN/URM-48	AN/URM-61	AN/USM-24	EE-65	ME-6C/U	ME-30/U	NT-302-778	OS-8/U	SM-65	TS-382( )/U
AN/TRD-12	X			X												
AN/TRQ-19	X			X				X								
AN/TRR-5		X														X
AN/TSC-15																
AN/TSQ-5 & 6	X															
AN/TTC-9	X															
AN/TXQ-1		X	X		X			X								X
AN/UPA-25	X	X											X	X		
AN/URC-22	X		X		X		X									X
AN/URM-47	X				X											
AN/URR-23A		X								X						
AN/VRC-18 & 22	X	X		X		X										X
EE-89A																X
MAY-1	X		X		X											
MTC-2	X							X								
PE-75	X								X							
PP-775 U	X												X			
PP-1277 U														X		
PU-239( ) G																
PU-296( ) G	X															
PU-344( ) G	X															
PU-345( ) G	X															
PU-346( ) G	X															
PU-347( ) G	X															
PU-348( ) G																
PU-454( ) G	X															
PU-482( ) G	X															
PU-493( ) M																
R-390 URR	X	X									X	X				X
R-392 URR																
RCX	X	X														
SB-22 PT	X															
SB-86 P	X										X					
SB-223 GR	X											X				
TA-182 U	X										X					







